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A STUDY PREPARED FOR THE
ROYAL COMMISSION ON

BANKING
AND
FINANCE

THE EFFECTS OF
MONETARY POLICY
ON CORPORATIONS

By J. H. YOUNG, J. F. HELLIWELL

Assisted by W. A. MCKAY

1964



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and J. F. Helliwell. 1964*

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ERRATA

ROYAL COMMISSION ON BANKING & FINANCE

APPENDIX VOLUME

(1) Text at the bottom of page 377 should read:

"The utility industries will be examined in order of the size of their total capital expenditure in 1959 with railways combined with air, motor and water transport in order to avoid revealing the identity of the firms.


Electric Power

The basic determinant of capital expenditures in most utility industries, and that mentioned most frequently by officials interviewed, is the need to provide the service demanded

(2) Pages 354 and 356 are incorrectly placed. The correct order is 353, 355, 354, 356.

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INTRODUCTION

The principal purpose of this Appendix is to describe the procedures followed and the results obtained from the Commission's Survey of corporations. As indicated in the Report, this Survey was part of a group of studies one purpose of which was to assess the extent and timing of the response of the economy to changes in monetary and debt policies. To the extent that it was possible, the assessment of the effects on expenditure in the present Survey were made in quantitative terms to permit aggregation of the results with those obtained from other sectors of the economy. A discussion of the aggregate effects is to be found in Chapter 21 of the Commission's Report.

The present Appendix is a substantially revised version of a Progress Report prepared in December, 1962, when the Survey was still incomplete. Some of the issues discussed in the Progress Report have been dealt with fully in the Commission's Report and material on these issues did not need to be incorporated in this Appendix. Most of the Chapters have been considerably revised and enlarged, and three new Chapters included — one on "The Distribution of the Effects of Monetary Policy", one on "Credit Conditions and the Non-Responders to the Mail Survey", and one on "Corporations and the Foreign Exchange Market". We were doubtful of the wisdom of retaining Chapters II and III in this Appendix, but some readers of the Progress Report were of the view that these Chapters provided a useful preface to the detailed discussions which followed. Chapter II has been enlarged to include a brief discussion of the Radcliffe Committee's position, and

Chapter III retained in essentially its original form. Those who do not find these introductory chapters useful are invited to turn directly to Chapter IV.

A Survey of this kind would not have been possible without the help of many people. The Chairman and members of the Commission not only took a keen interest in the work as it was going forward, but were of material assistance in assuring a favourable reception for the interviewers by corporations both large and small. The Secretary of the Commission, Mr. H.A. Hampson, was helpful at all stages, and the Assistant Secretary, Mr. Leo LaFrance, assisted in the administration of the Mail Survey. The advice, support and encouragement of the Director of Research, Dr. William C. Hood, was of crucial importance to the success of the project. Other members of the Commission staff, including Mr. R. Johnstone, Professor Harry G. Johnson and Dr. D.J. Daly, offered useful advice in the initial stages of the inquiry. Mr. William Kennett participated in some of the interviews, while Professor R.A. Shearer not only took part in some of the interviews but also assisted in the analysis of the results bearing on the foreign exchange market and the behaviour of foreign-owned subsidiaries. The Joint Secretary, Mr. Gilles Mercure, took part in many of the interviews carried out in the Province of Quebec and helped in other ways. Mr. W.A. McKay was a full-time participant in the Survey at an important stage and helped to prepare the Progress Report. The devoted efforts of the secretarial staff of the Commission, particularly Mrs. Jean Rees and Mrs. Pat Conway, made our work much easier.

We naturally turned to the Dominion Bureau of Statistics at an early stage of our inquiry, and Mr. M.J. Mahoney, the Director of the Division of Business Finance, was responsible for establishing arrangements for us. Mr. D.A. Traquair of the Division of Business Finance provided us with our samples of firms, and over a period of almost two years assisted us in a variety of ways.

A survey is, however, only possible if those who are being surveyed are prepared to take the

time and trouble to provide the most accurate information available. We not only had good reason to be pleased with the high response rate to the mail survey, but also met with a friendly and cooperative reception wherever we carried out interviews. Without this high degree of co-operation from corporate executives, government officials, the officers of financial institutions, and others, the Survey would not have been possible.

MONETARY THEORY AND MONETARY POLICY

Over the course of the last decade, monetary and debt policies have been used with considerable vigour in Canada. In the interviews and the mail inquiry which provided the data for this study, firms were told that in 1956-57, 1959-60 and in mid-1962 funds became less available in Canada and interest rates increased. They were then asked to indicate whether changes in the availability or cost of credit were in whole or in part responsible for leading their firms to change their sources of finance, reduce their inventories or postpone or abandon plans for capital expenditure. Similarly, corporations were told that in 1960-61 funds became more available and interest rates decreased in Canada. They were then asked whether these changes in the availability or cost of credit were in whole or in part responsible for leading their firms to change their sources of finance, accelerate capital expenditures or implement new plans to purchase capital assets.

In succeeding sections of this Appendix, we shall discuss the extent to which a survey of this kind can be expected to yield accurate results. We shall point out that to the extent that changes in the cost and availability of funds have had effects on other sectors of the economy, which in turn have affected corporate decisions, some problems arise. In some cases, corporate executives have anticipated these changes as ones which would result from a change in monetary and debt policies and have taken such indirect repercussions into account. Other effects, particularly those working through the exchange rate, may not have been anticipated, and executives who have reacted to a change in sales may fail to recognize that this was a consequence of a change in interest rates

and the availability of credit.

There are many other problems encountered in the use of the survey method, but there is a fundamental question which is quite independent of the accuracy or inaccuracy of the particular answers obtained in the Survey. This is the question of whether monetary and debt policies exert their influence over the economy through the cost and availability of funds, or whether there are other important channels of influence. If effects working through these other channels are not reflected in changes in the cost and availability of funds, then the questions being asked in the Survey, even if accurately answered, would not supply the material necessary for an analysis of the response of corporations to changes in monetary and debt policies. Similarly, the "credit conditions" approach to monetary and debt policies put forward by the Bank of Canada in its Brief and adopted by the Commission in its Report, would be open to question.

Two alternative approaches to monetary policy — one placing emphasis on the "quantity of money" and the other on the "whole liquidity position" — have sometimes been stated in a way which suggests that there are important channels of influence other than those reflected in the cost and availability of funds. Before comparing these alternative ways of looking at monetary policy with the credit conditions approach used in this study, some comments will be offered on the development of monetary theory. This will help to put present controversies into perspective and, incidentally, draw attention to the fact that the belief that monetary changes have little effect on prices or output or both, only received informed

support in ten or fifteen years out of the last three hundred.

Some Comments on the Development of Monetary Theory

There are various ways in which the history of monetary theory can be divided into periods. Any such division is in part arbitrary and it could equally well be argued that there is an underlying unity throughout the whole development. For present purposes, the last three centuries divide most easily into three periods: the first, the period in the seventeenth and early eighteenth centuries, representing the last stages of "mercantilist" thought; the second, a period of almost two centuries in which the classical quantity theory of money dominated; and the third, a period extending from early in this century to the present when attempts have been made to amend or replace the classical theory.

The transition from mercantilism to the classical theory does not call for any extended comment. In the seventeenth and early eighteenth centuries, the view was widely held that changes in the quantity of money would have a significant effect on output. This "mercantilist" view gradually gave way to the "classical" position that the effect of changes in the quantity of money would be felt on prices rather than on output. This difference reflected the fact that the classical economists assumed (often tacitly) that the economy had a tendency to operate at full capacity — a view which many of their predecessors did not share.

The classical assumption of a tendency towards what we now call "full employment" persisted throughout the nineteenth century. If demand fell, prices were expected to decline and businessmen and their employees were expected to accept rates of return appropriate to the new circumstances and carry on their production. The notion that aggregate demand might be persistently too low to lead to full employment was quite foreign to their thinking. For example, in his evidence to the Royal Commission on Gold and Silver in 1888, Alfred Marshall remarked: "I was very much struck by observing that in some of the evidence given to show that the fall of prices was doing

great harm, it was argued that we were suffering from general over-production, a malady I contend we cannot suffer from..."¹

The economists of the nineteenth century had, of course, a good deal to say about the fluctuations in income and employment which occurred, but given their assumptions about the nature of the economic system, they were primarily interested in the way in which the system adapted over the long run rather than the way it responded in the short run to particular changes. This applied to monetary changes as well as others. From Ricardo to Marshall, the view was held that while changes in the quantity of money would exercise a short run influence over rates of interest, this was a purely temporary effect and not worthy of much attention. Rates of interest were determined by the forces of productivity and thrift, with saving, investment, output and employment all thought to be independent of the quantity of money. The following selections from the writings of the nineteenth century economists convey some of the flavour of classical thinking on the short and long run effects of changes in the quantity of money.

"If, by the discovery of a new mine, by the abuses of banking, or by any other cause, the quantity of money be greatly increased, its ultimate effect is to raise the prices of commodities in proportion to the increased quantity of money; but there is probably always an interval during which some effect is produced on the rate of interest."

David Ricardo, *Principles of Political Economy*, Ch. XXI.

"The rate of interest bears no necessary relation to the quantity or value of money in circulation. The permanent amount of the circulating medium, whether great or small, affects only prices; not the rate of interest. . . . But though the greater or lesser quantity of money makes in itself no difference in the rate of interest, a change from a less quantity of money to a greater, or from a greater to a less, may and does make a difference in it."

J.S. Mill, *Principles of Political Economy*, (III, XXIII, 4).

¹, *Official Papers by Alfred Marshall*, Published for the Royal Economic Society by MacMillan And Co. Ltd., 1926, p. 91.

"My position is that the mean rate of discount is governed by the mean rate of interest for long loans; that again is determined by the extent and the richness of the field for investment on the one hand, and on the other by the amount of capital seeking investment. ... But ... what will be the result of a new disturbance, viz. the influx of a good deal of bullion into the City... it does increase the amount of command over capital which is in the hands of those whose business it is to lend to speculative enterprise. Having this extra supply, lenders lower still more the rate which they charge for loans, and they keep on lowering it till a point is reached at which the demand will carry off the larger supply. When this has been done, there is more capital in the hands of speculative investors, who come on the markets for goods as buyers, and so raise prices."

Minutes of Evidence, The Royal Commission on the Values of Gold and Silver (1887, 1888), Reprinted in Official Papers by Alfred Marshall, p. 51.

The nineteenth-century view of these matters was in the process of change at the turn of the century and considerable strides were made in the early decades of the twentieth century, notably by economists in the United Kingdom and Sweden. There was no sharp break with earlier thought, but once the quantity theory of money stopped being a broad generalization and was stated in precise terms, questions began to be raised about the validity of some of the assumptions and about the process whereby changes in the quantity of money had effects on the system. Many hands participated in the work. Marshall in England and Fisher in the United States laid the foundations by formalizing the quantity theory, while Robertson, Lavington, Hawtrey and Hicks in England, and Wicksell, Lindahl, Myrdal, Ohlin and Lundberg in Sweden made important contributions. The dominant figure in the whole development was, however, John Maynard Keynes whose *Treatise on Money* (1930) marked the end of one period of development, and whose *General Theory of Employment, Interest and Money* (1936) started a new period.

It is important, however, to emphasize the extent to which other economists contributed to the developments which occurred. There are deficiencies in the Keynesian theory, and when these deficiencies are recognized there is a temptation to return to something very close to the classical quantity theory of money. But this amounts to turning one's back upon more than a half a century of development in monetary theory, much of which would have occurred if Keynes had never lived.

Perhaps the central feature of the development which took place was a shift from attention to the quantity of money alone to the effect of changes in the quantity of money on interest rates and through interest rates on the economy as a whole. In short, attention turned to the process whereby changes in the quantity of money had their effect on the economy, and this brought to the fore the cost and availability of funds. By the end of the nineteen-twenties there was still little scepticism concerning the power of money to influence economic activity and prices. In his *Treatise on Money* (1930) Keynes was prepared to impute much of the distress of the nineteen-twenties in Britain to inappropriately high rates of interest, and with the onset of what was to turn out to be the Great Depression made the following inaccurate forecast: "I am bold to predict, therefore, that to the economic historians of the future the slump of 1930 may present itself as the death struggle of the war-rates of interest and the re-emergence of the pre-war rates."² He called for expansionary measures and concluded: "Not until deliberate and vigorous action has been taken along such lines as these and has failed, need we, in the light of the argument of this *Treatise*, admit that the Banking system can *not*, on this occasion, control the rate of investment and, therefore, the level of prices."³

During the years of economic disaster which came between the *Treatise* (1930) and the *General Theory of Employment, Interest and Money* (1936), Keynes developed a new way of looking at these issues, the influence of which still dominates much current thinking on the subject. The provision of a new perspective which altered the way

² J.M. Keynes, *The Treatise on Money*, p. 384.

³ *Ibid.*, p. 387.

in which a whole generation of economists and policy makers approached the question of how output was determined was perhaps his greatest contribution. For our present purposes, however, we are primarily interested in the way in which his views altered on the effect of changes in the quantity of money. On this issue there were three significant differences between the Keynesian approach and much earlier thought. First, Keynes took the view that money was held not only to provide a means of making transactions, but also to provide insurance against changes in the value of financial assets. Second, he expressed an empirical judgment that the rate of interest played no significant part in determining the level of saving and, third, another empirical judgment, that changes in credit conditions of the kind likely to be possible were unlikely to have a sufficiently large effect on investment expenditure to provide full employment.

The first of these propositions, the liquidity preference theory of the demand for money, leads to doubts about the ability of the monetary authority to achieve significant short-run reductions in long-term rates of interest. The second proposition, arising out of Keynes' belief that consumption depended primarily on income, was implicit or explicit in much earlier thought, and reduces the impact of any change in rates of interest. The third proposition summed up in the sentence "it seems likely that the fluctuations in the market estimation of the marginal efficiency of capital ... will be too great to be offset by any practicable change in the rate of interest" (*General Theory*, p. 164), suggests a further limitation on the effect of monetary policy. The acceptance of any one of these three propositions tends to reduce the anticipated impact on the economy of changes in monetary policy. The acceptance of all three can easily lead to the view that "money does not matter".

The battle between the traditional view and the new approach went on during the late nineteen-thirties and nineteen-forties. Monetary theory tended to decline in importance and monetary policy came to be regarded as a relatively ineffective instrument. During the post-war inflation, the central banks of a number of countries were virtually immobilized by decisions to maintain

pegged bond markets. This was partly the consequence of forecasting errors, partly the result of debt management concerns, but also reflected the victory of the new ideas.

This proved to be a passing phase. With inflation rather than deflation the issue of the day, the view developed that some flexibility should be restored to monetary policy. Partly as cause and partly as effect, there was a concurrent restoration of interest in monetary theory and many questions which had been thought to be either settled or uninteresting were re-opened. In particular, the quantity theory of money which in one form or another had continued to be regarded as useful by a number of older economists, obtained a new lease of life through the work done by Professor Milton Friedman and others.

The Modern Quantity Theory of Money

The central question which needs to be asked here is whether modern quantity theorists hold that changes in the quantity of money have effects other than the effects taken into account in the Keynesian or expenditure approach to the problem. The economist using the expenditure approach will prefer to work in terms of liquidity preference, the propensity to consume and the marginal efficiency of capital, and the quantity theorist in terms of money and velocity. If, however, both knew as much as they needed to know about the relationships they were using, would they in fact be following an essentially similar line of reasoning to reach a conclusion?

At present, the answer is not clear. An economist using the expenditure approach thinks of changes in the quantity of money as affecting credit conditions. If the central bank in a closed economy increases the cash reserves of the banking system by purchasing assets or reducing reserve requirements, the banks will extend loans or buy financial assets from the public. In the process this will, other things equal, lower interest rates and increase the availability of credit. The easing of credit conditions will, in turn, encourage expenditure. In general, economists in this tradition tend to argue that the expenditure which will be affected is investment expenditure by either business or junior governments, and that

it is not to be expected that consumer expenditures on goods and services other than housing will respond to any marked extent. This is clearly an empirical judgment and where, for example, sharp changes in the credit conditions facing consumers have led to significant reductions in their purchases of durable goods, it has been obvious that this generalization does not hold.

The same line of argument can be re-stated in terms of portfolio balance. The fall in the yield on financial assets resulting from an expansionary monetary policy will make financial assets less attractive to hold and correspondingly encourage the assumption of new financial liabilities. This will lead to an increased demand for real assets and thus an increased flow of expenditure. The assertion that consumer decisions on the holding of real assets will not be significantly affected by a change in the yield on financial assets merely re-states the empirical judgment expressed in the previous paragraph.

The nature of this empirical judgment can be brought out more sharply within a broader framework of reasoning. Over twenty years ago, Professor Harold Somers⁴ brought out clearly the four rates of return governing the decisions of individuals. During any finite period, he argued, an individual has at his disposal both his wealth and his income. The alternatives open to him are the holding of cash or securities, or expenditure on consumption or the purchase of productive assets. Securities provide rates of return which can be summarized as the rate of return on a standard security. Cash yields a subjective and immeasurable return but one which is nevertheless real and important. The rate of return on consumption indicates the extra satisfaction expected from consumption this year rather than next, while the rate of return on production can be thought of as the marginal efficiency of investment.

An increase in the quantity of money brought about through the purchase of financial assets from the public will lead to a fall in the yield on financial assets and, through additions to the stock of money in the hands of individuals, to a fall in the subjective yield on money. With lower

yields on both money and financial assets, the individual will be encouraged to increase expenditures on both consumption and production. The extent of the adjustment will depend upon the extent of the fall in yields on money and financial assets and the responsiveness of consumption and production expenditure to changes in these yields. Many Keynesian economists have held that while expenditure on productive assets may well be responsive, this is not the case with consumption, particularly the consumption of non-durable goods and services, and that changes in the yield on financial assets may lead to no significant change in consumption.

The above review helps to set the stage for an analysis of the views of the modern quantity theorists. So far, the work of this group has been primarily directed toward establishing the relationship between the quantity of money and other important economic variables, and only a beginning has been made in explaining the way in which changes in the quantity of money affect expenditure. The principal target of the quantity theorists to date has been the Keynesian contention that changes in the quantity of money affect rates of interest, rates of interest affect investment and investment affects income and consumption. Professor Friedman has described these effects as the "credit" effects of changes in the quantity of money and has gone on to argue that changes in the quantity of money also have "monetary" effects. It is not always clear what he means by "monetary" effects. These are "the effects on the stock of money as opposed to the effects on recorded rates of interest and other conditions in the credit market", but when he searches for examples of factors which are missed by concentration on the "credit" effects, he cites rates of return on consumer goods. It would appear, therefore, that the "monetary" effects he is talking about are "credit" effects working directly on consumption. A change in the quantity of money resulting from a purchase of financial assets from the public leads to an imbalance in the portfolios of individuals. The yield on financial assets has fallen and before individuals have fully adjusted their portfolios they have an excess stock of money. They adjust their portfolios by expenditure on a wide range of alternatives,

4. In "Monetary Theory and the Theory of Interest", *Readings in the Theory of Income Distribution*, American Economic Association.

including financial assets and goods and services. Friedman has summarised his present position as follows:⁵

"The process so briefly sketched can all be described as operating through interest rates; interest rates on marketable securities; interest rates which connect, let us say, the price of a building with the rents received from the sale of its services; implicit interest rates which connect the stock of durable goods consumers own with the service of these durable goods that they can purchase each year; and so on. But it is clear, first, that in order to describe the process as operating through interest rates, it is necessary to take into account a much broader range of interest rates than is usually done, and second, that the end result need not be a change in interest rates at all; it may be a change either in the general level of prices or in output. An increased amount of water may flow through a lake without raising its level more than momentarily."

There are several comments which can be made on this summary. First, no argument is being made that the effect of changes in the quantity of money on business firms is other than through changes in recorded market rates of interest and, one might add, availability of credit. Friedman has been anxious to show that the route from the quantity of money to consumption does not proceed through investment and has concentrated on consumer decision making. Second, it is not clear that the broader range of yields discussed in the quotation is any more relevant for Friedman's analysis than for the expenditure approach. Knowledge of the yields on real assets and changes in these yields would be equally helpful for both. It would appear that nothing more is being said than that increases in the quantity of money lower the yield on financial assets and the subjective yield on money. Before any further steps are taken to adjust the portfolio, the yield on real assets will not have changed. The yield on a house of a particular quality, i.e. the gross rent minus taxes, repairs, maintenance, etc. will remain the same,

as will the yield on consumer durables in terms of the services they render. An automobile will provide as many miles of comfortable driving, a suit of clothes as many wearings and a washing machine as many washings per year as before. The yield on money and financial assets having fallen relative to the yield on alternative assets, the relevant question for both the quantity theorist and the expenditure theorist is the extent to which the demand for other assets is responsive to changes in the rate of return on financial assets, i.e. market rates of interest and the subjective yield on money.

Finally, it is noteworthy that in the last sentence of Friedman's summary there is an echo of the classical quantity theory. Short-run changes in interest rates occur when money is introduced into the system but this leads to higher expenditure and any interest rate effect may be temporary. In the classical system, the result is a rise in prices, in the modern version it leads to either a rise in prices or in output.

The general conclusion to be drawn from this examination of the modern quantity theory of money is that the issue between this way of looking at the economy and that of the expenditure approach is not a theoretical one. The same variables find a place in both types of analysis. The central issue is the empirical one. What effect will a change in credit conditions resulting from a change in the quantity of money have on expenditures?

The Whole Liquidity Position

A second way of looking at monetary policy, which on the surface appears to differ from the approach focussing on the cost and availability of funds, is that which lays stress on the "whole liquidity position". This way of looking at monetary policy received a good deal of attention through its use by the Radcliffe Committee and was subsequently discussed further by the two academic economists on the Committee: Professor Sayers and Professor Cairncross. There has been a good deal of controversy over this concept and the comments which follow will be restricted to any differences which exist between the "quantity

5. Milton Friedman and David Meiselman, "The Relative Stability of Monetary Velocity and the Investment Multiplier," published in *Stabilization Policies*, Commission on Money and Credit, p. 221.

of money", the "whole liquidity position" and the "credit conditions" approach to monetary policy.

The focussing of attention on the "whole liquidity position" is perhaps most simply regarded as a reaction against the "quantity of money" approach. It is the quantity theory of money more than anything else which is the target of criticism by the Radcliffe Committee and in the later writings of Sayers and Cairncross. The following excerpts from the Radcliffe Report indicate the nature of this criticism:

"The volume of those assets of persons and corporations which are regarded as 'money', in the sense of immediately transferable purchasing power, is seen by those who hold views of this kind as a quantity which governs the demand for real goods and services, capable of instant use to finance expenditure and therefore of constituting a very powerful pressure of demand. ... It is for this reason that some experts consider that the central task of the monetary authorities is to keep a tight control on the supply of money ... Our view is different. Though we do not regard the supply of money as an unimportant quantity, we view it as only part of the wider structure of liquidity in the economy. It is the whole liquidity position that is relevant to spending decisions, and our interest in the supply of money is due to its significance in the whole liquidity picture." (388 and 389).

"The fact that spending is not limited by the amount of money in existence is sometimes argued by reference to the velocity of circulation of money... We have not made use of this concept because we cannot find any reason for supposing, or any experience in monetary history indicating, that there is any limit to the velocity of circulation; it is a statistical concept that tells us nothing directly of the motivation that influences the level of total demand. An analysis of liquidity, on the other hand, directs attention to the behaviour and decisions that do directly influence the level of total demand." (391).

"In theory, monetary action may work upon total demand by changing the interest incentive; we believe that only very limited reliance can be placed on this. More certainly, monetary action works upon total demand by altering the liquidity position of financial institutions and of firms and people desiring to spend on real resources; the supply of money is not the critical factor. (397).

In his later writings, Professor Sayers has frequently returned to the same point.

"If monetary policy is to be used at all, we must make it operate on as broad a front as possible; action on the supply of bank money must be thought of as purely incidental to a positive, aggressive, and far-reaching interest rate policy."⁶

The views expressed in the above comments are all directed to the United Kingdom economy. In his Wicksell Lectures, given after the publication of the Radcliffe Report, Professor Cairncross laid stress on this point:

"Now there may be economies in which the monetary authorities can, by exerting leverage on the money supply, do all they want to do with comparative ease, or in which the state of liquidity is a simple function of the money supply. Whatever may be true of those economies, the United Kingdom cannot be numbered among them."⁷

There has been no lack of criticism by British economists of the applicability of these conclusions to the United Kingdom economy, but our concern here is with their applicability to the Canadian system. The general view expressed in the Submission of the Bank of Canada and reflected in the Commission's Report, is that the authorities can, by and large, accomplish most of what they want to accomplish by operations affecting the cash reserves of the banks and hence the supply of "money". It is equally clear, however, that the authorities have not ruled out the use of other methods. Debt management operations have

⁶ R.S. Sayers, "Monetary Thought and Monetary Policy in England", *The Banker*, 1960, p. 683.

⁷ A.K. Cairncross, *Monetary Policy in a Mixed Economy*, Wicksell Lectures, Stockholm, 1960, page 13.

from time to time been used to affect the structure of credit conditions, while the change from a flexible to a fixed bank rate has made possible the use of this instrument as a means of influencing expectations. Nevertheless, while these other instruments can and have been used, and while the authorities have elected to make credit conditions rather than the money supply their instrumental objective, the Canadian experience does not suggest that the banking system and the money supply play as subordinate a role as the Radcliffe Committee suggested was the case in the United Kingdom.

It is beyond the scope of this study to pursue the question of whether the United Kingdom experience has in fact differed as sharply from that of Canada as these differing interpretations would suggest. Of direct concern here, however, is another question: namely, whether in the notion of the whole liquidity position effects are being taken into account which are not reflected in the cost and availability of credit.

The Radcliffe Committee described the effects of monetary policy in the following terms:

"... we may say that the monetary authorities can theoretically influence the total level of demand in two ways. First, by bringing about a change in interest rates, the monetary authorities can induce a change in the incentive to purchase capital goods ... and so cause a change in actual spending on labour and other means of production of these goods... Secondly, the monetary authorities can bring about a change in the liquidity condition of financial institutions and of business firms and people generally, so that those wanting money to spend (whether for capital development or other purposes) find it more (or less) difficult to get than it was before. We may call the first effect the interest incentive effect, and the second the general liquidity effect. The contrast however is incomplete, for we shall argue that movements in the rate of interest have a central part to play in bringing about changes in liquidity." (385)

The interest incentive effect calls for little comment. It is the direct effect on real expenditure brought about by a change in interest rates.

Broadly speaking, the kind of evidence sought by the Radcliffe Committee was similar to that found in this study. There is perhaps one difference in concept. In discussing the interest incentive effect, the Radcliffe Committee made no mention of the effect on expenditure of a change in the yield of financial assets owned by non-financial corporations. Indeed, at one point the suggestion is explicitly made that firms which finance internally are unaffected by monetary policy.

"It is, moreover, only when firms do wish to raise money outside that they come within the reach of monetary policy. If they can raise all the funds they need out of their own profits, their decisions on capital expenditure will be governed not by Bank Rate or the state of the new issue market, but by the opportunities open to them and the return they expect from their money." (317)

But a corporation which is not a borrower may well be a lender, and if the yields on financial assets rise, this might be expected to have some effect on corporate decisions to acquire real assets. In the course of the present study, we made an effort to assess the importance of this particular channel of influence of monetary policy and concluded that for changes in interest rates of the kind we have experienced, this influence was very small. To the extent, therefore, that there is a conceptual difference between the Radcliffe interest incentive effect and the cost of funds effect used in this study, the practical importance of the difference is fairly minor.

It is more difficult to compare what is referred to in the Radcliffe Report as the "general liquidity effect", and what we describe as the effects resulting from changes in the availability of funds. In attempting to discover what differences, if any, exist between these two notions, we have found it easier to state what we mean by the availability of funds and then see if any channels of influence referred to by the Radcliffe Committee are not included within the notion of availability.

Those who adopt the credit conditions approach to monetary and debt policies have a very simple view of the place of the availability of

credit. If financial markets were characterized by freely flexible interest rates, then any change in credit conditions initiated or acquiesced in by the authorities would be immediately reflected in interest rates. If the move were in the direction of restraint, credit would always be available to all borrowers but only at higher rates than prevailed before. But rates do not move freely, partly because of legal restraints, partly because of political decisions and partly because of institutional arrangements which preclude frequent adjustments of prices in the face of changing demand and supply. Thus the lending rates existing in some markets are an imperfect indicator of credit conditions and additional knowledge is required on the ease or difficulty of access to funds in order to measure the change in credit conditions which has occurred. The more alternative sources of funds there are, the more readily borrowers shift from one to another, and the closer competing sources are to each other in rates, then the smaller the role which availability can play even if the borrowing and lending rates of individual sources of funds are sticky. If the borrowing and lending rates of individual sources of funds are fairly flexible and there is a variety of sources, then price rather than availability will tend to be a fairly accurate measure of credit conditions, and attempts to exercise restraint by limitations on one or more sources will tend to be reflected quickly in interest rates.

In the case of Canada, imperfections in the financial system have been fairly important. Thus when most lending rates in the financial system have risen sharply, rates for some types of lending have failed to rise or risen only moderately and as a result there have been some dramatic changes in the availability of funds for particular purposes or from particular institutions. The most striking example of an effect of this kind has been lending under the National Housing Act. As interest rates in the rest of the system have risen, there have been occasions when the N.H.A. lending rate was left unchanged or raised only slightly, and the increases in other rates made this type of lending unattractive. Thus a dramatic decrease in one important kind of mortgage lending could be achieved as a result of an imperfection in the financial system. Similarly, if the general level

of interest rates had become sufficiently high with a 6% ceiling on bank lending rates, and if the banks had aimed simply at maximizing short-run profits, then with short and medium term interest rates above 6% there would have been no incentive for the banks to sell securities in order to make loans at lower rates. A rise in interest rates could, through this channel, thus limit the availability of bank credit. These imperfections result from political decisions or legal restraints; but wherever there are lags in the adjustment of borrowing and lending rates to changes in demand and supply, the price of funds will not reflect adequately the state of the market for such funds and there will be differences in the ease or difficulty with which one can borrow at a given interest rate.

There is an additional type of imperfection which can influence the willingness of a financial or a non-financial corporation to dispose of a financial asset in order to purchase another financial asset or a real asset. This arises from the valuation procedures followed by many companies, including insurance companies, trust companies and chartered banks. If securities are not carried at market value, then their sale at a value below original cost or the figure at which they are carried on the books may have consequences for the balance sheet and income statement in a particular year, and this may lead to a reluctance to dispose of securities in order to undertake new lending.

Most of the Radcliffe Committee's discussion of the "general liquidity effect" parallels the above analysis of the concept of the availability of funds. This is particularly the case in the Committee's opening remarks on the general liquidity effect.

"While the cost of borrowing money can only affect total demand directly in the limited manner referred to ... the monetary authorities may bring to bear another influence which can be altogether more peremptory. This is the availability of funds to borrowers through particular channels. An interest charge will be one of a number of factors weighed in the balance when an investment decision is being made, and even a sharp

change in this item may easily be obscured by other factors; but if the money for financing the project cannot be got on any tolerable terms at all, that is the end of the matter." (387)

Similar comments are made in succeeding paragraphs.

"We have been concerned throughout with the ease or difficulty encountered by spenders in their efforts to raise money for the purpose of spending on goods and services." (389)

Moreover, when the Committee, having dismissed wide fluctuations in interest rates as a suitable method of stabilizing the economy, cast around for techniques for dealing with an emergency situation, they recommended measures to affect the availability of funds.

"...if there does appear at any time a grave threat of the situation getting seriously out of hand, we advocate a combination of measures which can strike promptly and vigorously at the central points of the financial system; limitation of bank advances, of new capital issues, and of hire purchase credit." (984)

In discussing the effects of changes in interest rates on liquidity, the Committee placed a good deal of reliance on imperfections in the financial system.

"We have seen at a number of points ... that a movement of rates of interest, quite apart from any direct effect it may have on the demand for investment goods, may have appreciable effects on the behaviour of various financial institutions. Provided that it is not confined to the short end of the market, a movement in interest rates implies significant changes in the capital values of many assets held by financial institutions. A rise in rates makes some less willing to lend because capital values have fallen and others because their own interest rate structure is sticky." (393)

The above selection of quotations suggests a close similarity between the general liquidity effect and what we refer to as the effects resulting from changes in the availability of funds.

The Radcliffe discussion of liquidity did, however, mystify many of the readers of the Report and it may well be true that the notion of availability does not catch all the nuances of their position. Insofar as reference is made to the behaviour of financial institutions and other lenders, availability probably covers the same ground. To the extent that an increase in interest rates exercises some inhibiting effect on lending by financial institutions and others, this will be reflected in a change in the availability of credit from these lenders. Since in this study corporations have been asked to report on the way in which they have responded to changes in the availability of funds, as well as to changes in interest rates, any direct effect should have been taken into account. The effect on non-financial corporations of changes in the value of their own financial assets and the way in which this affected their own spending on goods and services was less adequately covered. In discussions of the effects of interest rates on corporate decisions, executives rarely referred to this channel of influence. This is not surprising. The portfolios of most non-financial corporations consist of short-term assets, the prices of which are affected to only a minor degree by changes in interest rates of the kind we have experienced. As far as direct effects on corporations are concerned, therefore, we would conclude that the channels of influence suggested by the liquidity approach are either covered by our approach or are of relatively minor importance.

The Credit Conditions Approach to Monetary and Debt Policies

When the questions which formed the basis of this study were first being discussed, they were not considered as part of any particular approach to monetary and debt policies but chosen simply because they posed, in the most straightforward way, the effects of these policies on corporations. The view was taken that periods of so-called "tight money" were characterized by increases in interest rates and restrictions on the availability of credit, and that periods of "easy money" by lower cost and more readily available funds. It was these changes which were supposed to have

an impact on corporate decisions, and the simple way to approach this problem was to assess the extent to which corporations in fact responded to changes of this kind.

It was later recognized that this way of looking at the effects of monetary and debt policies fitted directly into the "credit conditions" approach put forward in the Submission of the Bank of Canada. The Bank's Submission looked to changes in the cost, terms and availability of credit as an indicator of financial conditions rather than to the quantity of money or to the quantity of a more broadly defined group of financial assets. There was in the Submission, moreover, a recognition that the authorities must accept responsibility for the state of credit conditions since they have the power to mitigate or reinforce any change in credit conditions or alternatively can initiate a change in credit conditions through their own actions. It is these two elements — first, the contention that it is the cost and availability of credit which is the appropriate instrumental objective of the authorities, and, second, the recognition that a change in credit conditions must have been initiated or acquiesced in by the authorities and therefore represents a change in policy — which together constitute the credit conditions approach to monetary and debt policies.

Since an important role is accorded changes in the supply of "money" as a means of affecting the cost and availability of credit, it may appear to be a matter of indifference which is regarded as the instrumental objective. As the Commission's Report makes clear, however, this is not the case. A strict adherence to the quantity of money approach may lead to considerable short-run difficulties if financial markets are temporarily upset. If the authorities are unprepared to accept responsibility for the crucial role they play in determining the level and structure of interest rates, changes can come very quickly with harmful effects on the economy. Moreover, fixing attention on credit conditions rather than the quantity of money emphasizes the close connection between monetary policy and debt management and can lead to clearer thinking on the part which can be played by debt operations which do not affect the money supply as compared with debt operations which do affect this magnitude.

Critics of any new approach to a problem tend to fall into two groups. One argues that the approach is wrong and the second suggests that it does not represent a new way of looking at the problem. There has been little discussion of the credit conditions approach but some critics have held that this way of looking at monetary and debt policies is too broad and imprecise. It can justly be argued that if one is working with a magnitude such as the quantity of money defined as including currency and bank deposits, it is possible to be more precise. But this precision may be more apparent than real if there is serious doubt about the appropriate position of the dividing line between deposits held in banks as opposed to deposits held in other financial institutions or the significance of the dividing line between deposits and other related kinds of financial assets. It is true that in assessing the state of credit conditions one needs not only a knowledge of borrowing and lending rates in the system but also a reasonably clear idea of the availability of credit through a variety of channels. There is no escaping the fact, however, that with market imperfections the phenomenon being studied is inherently complex. Moreover, if simplification is required, it is not difficult to obtain rough approximations of the changes in credit conditions which are occurring by concentrating on a few key interest rates and the availability of credit through a few major channels.

There is much to be said, on the other hand, for the position that the credit conditions approach is not a new way of looking at monetary and debt policies. Indeed, a strong case can be made that this approach emerges directly from the mainstream of monetary thought in the twentieth century. It is worth pointing out, however, that there is a good deal of evidence that the authorities in many countries have not taken this view of their responsibilities. In particular, it would appear that at various times in recent years the authorities in the United Kingdom, the United States and in Canada have either expressed views or carried out policies which suggest that their way of looking at monetary and debt policies was somewhat at odds with the credit conditions approach.

The Radcliffe Committee found an unwillingness on the part of the authorities in the United

Kingdom to accept responsibility for the movement in long-term interest rates and to use these rates as weapons of stabilization policy.

"In acting on interest rates, the authorities have throughout concentrated on short rates, and action has been primarily on Bank Rate... There was reluctance to see any sharp rise in long rates on account of the implications for the cost of debt service; such rise in long rates as higher short rates did cause was at first regarded as a nuisance, not as a means of disinflation." (428)

It was recognized that this view was changing, but in their Report the Radcliffe Committee felt it necessary to stress that the authorities must consciously exercise a positive policy on both long and short-term interest rates.

The position of the authorities in the United States is harder to judge. In the past, however, much of the writing and testimony of senior officials of the Federal Reserve System has been consistent with the following expression of views taken from the 1961 edition of *The Federal Reserve System: Purposes and Functions*.

"While the course of interest rates is necessarily influenced by reserve banking action, monetary policy decisions are themselves based primarily on judgment as to the flow of bank credit and money that is appropriate for the economy, and not on judgment as to some level and pattern of interest rates that is deemed to be appropriate. To the greatest extent possible, the setting of interest rates is left to the interplay of supply and demand forces expressed in the credit and security markets." (p. 122)

In the case of Canada, the events of October, 1960, cited by the Commission in its discussion of the differences between an approach which

concentrates on prices as opposed to an approach which concentrates on quantities, provides some indication that the authorities in Canada have not always subscribed to the credit conditions approach to monetary and debt policies. It will be recalled that during this period interest rates were allowed to rise sharply on the eve of the worst winter of unemployment in a generation.

There is thus no lack of evidence that even in the principal English speaking countries, where it might be expected that the credit conditions approach would have had a natural home, this has not always been the way in which the authorities have viewed their responsibilities.

Conclusion

We have now briefly reviewed three different methods of approach to monetary policy. No attempt has been made to be comprehensive in the discussion of any of these approaches, and those who seek a definitive treatment must look elsewhere. Our purpose was a narrower one. This Study was not explicitly based on the credit conditions approach to monetary and debt policies, but in the event the kind of questions asked and the evidence gathered fell naturally into this frame of reference. It is a matter of some moment, therefore, to know whether other ways of looking at monetary and debt policies take into account effects which go unrecognized in the credit conditions approach. In general, it would appear that the credit conditions approach does take into account the effects emphasized in the other approaches, although there is a difference in emphasis. Indeed, this difference in emphasis is perhaps the central issue dividing these various ways of looking at monetary and debt policies and that issue can only be settled by empirical research.

SOME PREVIOUS RESEARCH ON THE EFFECTS OF MONETARY POLICY

It has been suggested above that at present the central issues in the field of monetary policy are empirical rather than theoretical. This chapter provides a review of some of the survey research carried out in the United Kingdom and the United States over the last twenty-five years. The research reviewed includes, for the United Kingdom, the pro-war Oxford studies, the Radcliffe Committee evidence, and a study by the Oxford Institute of Statistics; and for the United States, a paper by Professor J.F. Ebersole and a survey carried out by Professor Robert Eisner.

The Pre-War Oxford Studies

The first and perhaps best known enquiry into the responsiveness of firms to changes in credit conditions was the Oxford study of 1937, reported in the *Oxford Economic Papers* in 1938. Meetings were held at Oxford between members of the Oxford Economists Research Group and a total of thirty-seven businessmen representing a wide range of manufacturers producing both capital and consumer goods, as well as merchants and financial institutions. In addition, an accountant and two American professors were consulted. Prior to each meeting, a questionnaire was sent out to indicate generally the type of question to be asked. These questions and supplementary subjects were as follows:

- 1) Is the rate at which you can borrow from the bank an important consideration to you? Has an alteration in the bank rate ever had a material direct influence in inducing you to expand or to contract your activities?

- 2) Have you ever increased your stocks of raw materials on account of a fall in the bank rate?
- 3) Is the long-term rate of interest an important factor in regard to policies of capital extension?
- 4) Do you ever postpone, or speed up, extensions or renewals of plant because you expect the costs of building or the price of machinery to rise or fall?
- 5) Does it ever happen that the existence of large undistributed profits induces businessmen to embark on capital extensions which they would not have undertaken otherwise? Conversely, does the desire to maintain dividends out of reserves during a depression, or to maintain a liquid position, sometimes act as an influence leading to the postponement of plant renewal or desirable capital extensions?

These questions were supplemented in discussion by many others and the following matters were also considered:

- 1) The effect of short-term interest rates and the banks' lending policy on investments in fixed plant or stock.
- 2) The effect of long-term interest rates on investment in fixed plant.
- 3) The effects of expected price changes on investment in stocks.
- 4) The effects of the state of demand for the product on investment in fixed plant.

- 5) The effects of abundance or scarcity of liquid resources on investment in fixed plant.

The results were summarized as follows:

1. "There is almost universal agreement that short-term rates of interest do not directly affect investment either in stocks or in fixed capital. The reason usually given for this is either that the business does not borrow from the bank or else that the effect of changes in the rate is too small in comparison with the profit margin to make any difference."¹
2. "The majority (of those interviewed) deny that the long-term rate of interest affects investment directly..."²
3. "A considerable number of businesses seem to relate their purchases of raw materials to expected changes in their price or to expected difficulties in obtaining delivery. Although this is not a universal practice, and is denied by some entrepreneurs, we may at least conclude that it is of considerable importance."
4. The firms interviewed expressed a wide divergence of opinion and practices concerning the role of anticipated changes in capital construction

1 Three exceptions to the practically unanimous agreement that short-term interest rates do not directly affect investment should be noted. First, one responder in the consumption goods industry said changes in bank rate might influence the decision to purchase machinery, while another indicated that a rise in bank rate might restrict inventories but a fall would not lead to an increase in inventories. Second, some merchants thought speculators buying in anticipation of small price changes might be induced to increase purchases. "...several businessmen took the view that the psychological effects of a change in bank rate are important, arguing that there is a tendency to regard such changes as analogous to a weather report, and as indications of the probable trend of trade. Merchants tended to stress this influence. Some witnesses, moreover, asserted that the willingness of the banks to lend, as distinct from the rate charged, was an important consideration, and that this was liable to vary." (*Oxford Economic Papers*, No. 1, Oct. 1938, p. 29 "Replies to Questions on Effects of Interest Rates" by J.E. Meade and P.W.S. Andrews.)

2 There were some exceptions. A consumption goods manufacturer suggested it might affect the installation of labour saving devices; another consumption goods manufacturer and a textile firm indicated that it would enter the calculation of new investment; firms engaged in textiles, transport, retail trade and finance, all suggested that long rates were important but the how and why of this were not clearly demonstrated. "The majority who deny its importance give as their reasons either that they do not need to borrow for extensions or that it is too small an element in comparison with depreciation, obsolescence, or the uncertainty of the market for the product." (p. 29)

costs and the impact in turn on investment. The interviewers concluded that this was an important factor in studying "industrial investment as a whole".

5. The impact on investment of the absence or presence of liquid resources was a very mixed picture. On the whole the interviewers concluded that this was a consideration of importance.

The results which indicated that the decisions of businessmen were only affected to a very limited extent by changes in credit conditions attracted a good deal of attention. It was rightly felt that several able economists were unlikely to bring away an erroneous impression. If these results were questionable it could only be because the method itself was an inappropriate one or the businessmen being questioned were atypical because of the economic conditions of the time or the nature of the firms from which they came. In fact, the sample was a biased one. As Henderson³ pointed out "the sample may be said to be biased in one important respect. The majority of businessmen we have consulted represent prosperous firms in a strong financial position". Further, the fact that the interviews were carried out during a long period of credit ease probably tended to bias the results in the direction of unresponsiveness to credit conditions. Moreover, the sample omitted important sectors of the economy. One of the participants in this study, Professor J.E. Meade, commenting eleven years later wrote: "What seems to have been overlooked is the extent to which our interviews were confined to risky manufacturing or commercial business, where one would expect the rate of interest to have the least effect because the "risk premium" is everything. Things may be very different in, e.g., housing, railway electrification, etc. etc. and these may account for a very large part of total investment. Nor, reading through the answers again, does it appear to me to be reasonable to conclude that the direct and *indirect* (e.g. liquidity) effects of a change in the rate of interest are negligible even in the field which we did cover."

3 H.D. Henderson (later Sir Hubert), "The Significance of the Rate of Interest", *Oxford Economic Papers*, No. 1, Oct. 1938, pp. 8-9.

4 *Oxford Studies in the Price Mechanism*, Edited by T. Wilson and P.W.S. Andrews, p. 4.

On the basis of the interest shown in this pioneer study, P.W.S. Andrews (who participated in the earlier project) undertook a questionnaire survey in February 1939 of some 1,308 businesses chosen mainly at random but with some special supplements from a few industries not included in the larger population.

The mail questionnaire which is reproduced below was relatively easy to answer.

Have any of the following:

- a) Bank Rate
- b) Rate of Discount on Bills
- c) The level of interest charges on bank overdrafts
- d) The facility with which bank overdrafts can be obtained
- e) Yield on Government securities
- f) The facility with which you can raise new capital from the public

ever affected:

- i) Your decision to make, or to defer making, expenditure on plant extensions?
- ii) Your decision to make, or to defer making, expenditures on maintenance and repairs?
- iii) The size of your holdings of stocks?

On the basis of usable replies from 309 firms, Andrews concluded "that 70-75% have not been affected by the factors mentioned, and 25-29% have been affected by the rates of interest and facilities for borrowing mentioned in the questionnaire". On the face of it this would appear to indicate a rather higher degree of responsiveness to monetary policy than revealed in the interview study. Andrews' nonetheless was of the view that the enquiry broadly confirmed the conclusions reached earlier but pointed out the absence of "detailed probing and testing of the answers supplied". Professor Sayers who also reviewed the individual replies pointed out that he had been able to find "only about twenty clearly convincing cases of positive answers to our questions". He added that "thirty other cases seem to me worth considering as 'possibles' ". Later

⁵ P.W.S. Andrews, "A Further Inquiry into the Effects of Rates of Interest", *Oxford Economic Papers*, No. 3, February 1940, pp. 33-73.

⁶ R.S. Sayers, "Business Men and the Terms of Borrowing", *Oxford Economic Papers*, No. 3, February 1940, pp. 24-25.

investigators have developed the same scepticism about the degree of weight to be accorded replies to complex questions of motivation appearing in a mail questionnaire.

The Radcliffe Committee Evidence

The Radcliffe Committee did not conduct any specific enquiry into the impact of changes in credit conditions. Rather it relied on surveys conducted by the Association of British Chambers of Commerce (ABCC) and the Federation of British Industries (FBI) plus the views of a number of associations and some leading British businessmen.

The ABCC undertook two mail surveys. The first survey, conducted in October 1957 by the Birmingham Chamber of Commerce, polled 3400 members of the local Chamber on the impact of monetary policy in the period 1955 to mid-1957. This survey yielded 610 usable replies. Several questions were asked on turnover, bank overdrafts and alternative sources of short term advances. The question of primary interest here, however, is the one which asked whether the firm had postponed expenditure on plant and equipment and, if so, whether this was due to an increase in interest rates on borrowed capital or other causes. Just over 30% of those who responded indicated that they had cancelled or postponed plans and around a third of these or just under 12% of all firms responding, attributed the postponement or cancellation in whole or in part to increases in interest rates on borrowed capital. Restrictions on hire purchase or mortgage facilities were cited by over 7% of the firms (over 14% of firms with registered capital under £10,000) and restrictions on lending through the Capital Issues Committee by just over 4%.

The results of the Birmingham Survey can be compared with those of the Federation of British Industries' survey which covered the same period. The FBI sent questionnaires to 7,000 of its members. Allowing for subsidiary companies they estimated a maximum response of around 5,000, and received replies from 1,595. The Federation officers were reluctant to draw any strict statistical conclusion because the companies answering "were not necessarily a representative sample of industry, nor was it possible to devise a system

for weighting the results according to some measure of the relative importance among the companies". (Memoranda of Evidence, Vol. II, p. 114.) One particular statistic did receive a good deal of attention. In response to the question "Was the rise in Bank Rate from 3% to 4½% during January and February 1955 a *major* factor in taking your business decisions?" 179 firms or just under 12% answered "yes" and 1347 or 88% answered "no". Just over 16% of the firms responding indicated that the difficulty of raising extra money outside the firm (including both the cost of borrowing and the administrative difficulties involved) had caused them to decide to postpone fixed investment in the period covering the two financial years ending in 1957.

The FBI survey result that just over 16% of responding firms postponed capital expenditure because of borrowing costs is not inconsistent with the results of the Birmingham survey. Although just under 12% of all firms responding to the Birmingham survey attributed postponement or cancellation to interest rates it will be recalled that a further 7% cited restrictions on hire purchase or mortgage facilities. To a limited extent, therefore, the two surveys provide some support for each other.

It is very difficult to compare these results with the results of the second ABCC survey carried out in March 1958 on the effect of the credit squeeze between September 1957 and March 1958. The ABCC sent out 16,000 questionnaires and received 3,404 usable returns from 68 towns in Great Britain. These replies were analyzed for the ABCC by the National Bureau of Economic and Social Research. In addition to a number of other questions, the firms were asked whether since September 1957 they had experienced (i) a reduction (other than seasonal) in turnover, (ii) a reduction (other than seasonal) in stocks and/or work in progress, (iii) reduced or (iv) postponed fixed investment projects. Of the responding firms 53% reported a reduction in turnover, 37% a reduction in stocks, 24% a reduction in fixed investment projects and 32% a postponement of fixed investment projects. If the next question had been differently worded it would be possible to estimate the percentage of responding firms which attributed a reduction or postponement of fixed investment to

the credit squeeze and this could be compared with the results of the other two surveys. Unfortunately, the next question listed a number of alternative considerations affecting decisions and applied them to the answers to all of the parts of the previous question. Thus, while we know that 21% of all responding firms felt that credit conditions in some form or another affected their decisions, the decisions referred to include the reduction of turnover and stocks, as well as the reduction or postponement of fixed investment projects.

In addition to the above surveys, the Radcliffe Committee obtained some direct evidence in the course of their hearings. Of particular interest were the answers given by the directors of large industrial companies on the effect of monetary policy on their decisions. The following are some extracts from the evidence bearing on the subject of sensitivity to changes in monetary conditions. The question numbers are indicated in brackets.

Lord Knollys, Chairman of Vickers Ltd., in response to a question about whether his company reviewed a specific project when interest rates rose, replied: "We did not review whether we should go ahead with that particular programme at all, because it was fundamentally right. Whatever the rate of interest – well, nearly whatever – it would not have affected us. It was a 15, 20, 25-year programme, and over the years the rates of interest would presumably roughly even themselves out. This applies to all our programmes. We just looked at the issue at the last minute to see whether the amount to be raised should be the amount we originally thought of or a little less" (11308). Lord Harcourt, in summing up Vickers' position, concluded "...the rate of interest will influence the timing of the raising of the capital but will not influence your planning". Vickers' Chairman agreed (11323).

Sir Patrick Hennessy, Chairman of the Ford Motor Co. Ltd., agreed that monetary circumstances have no immediate direct effect on investment (11358) but that if demand is affected it might have, over the short run, timing implications. The following exchange between Professor Sayers and Sir Patrick underlines this point. Professor Sayers: "If there was an announcement of a major switch in monetary policy in this country (excluding hire purchase terms) would that cause you to

alter your plans at all, thinking of this possible change in the monetary policy as of the order of those you have seen in the last five years?" — "No. After all, they are temporary, are they not?" --- "They have never been announced as temporary." --- "That is how they have worked out. Unless we are going to see the country in trouble forever one assumes that these monetary policies are not permanent... How can we therefore change a long-term plan for them?" (11380-11381). This suggestion of the temporary nature of existing monetary policy was mentioned by several witnesses.

Shell Oil use a rate of interest in calculating which projects to undertake. This rate is varied more or less in response to changes in monetary conditions. Professor Cairncross asked: "If rates of interest were doubled, would not that affect the decisions, and lead to some projects being rejected that previously had been accepted?" Lord Godber (Chairman, Shell): "I should say not. I should say the proportion of interest in the cost of most of these projects is comparatively small." Mr. Stephens (a Director of Shell): "It is purely an internal calculation we make which does not have very much, if any, bearing on the decision..." (11543).

Several witnesses referred to and dismissed the availability problem. They had not experienced a situation where they were unable to proceed with projects because of a shortage of funds.

The witnesses also tended to confirm that trade credit was sensitive to changes in monetary policy. With these large firms, this usually took the form of the extension of accounts receivable for smaller businesses. One particular factor mentioned by most of those testifying was the expectation of continued inflation which greatly reduced the significance of changes in interest rates at least of the magnitudes experienced during the 1950s.

Summarizing the conclusions they derived from the direct evidence and the survey results, the Radcliffe Committee wrote as follows: "...when we confined our questions strictly to the direct effect of interest rate changes in making business men alter their decisions to buy or sell goods and services, we were met by general scepticism." (Report, para. 451).

The above paragraph in the Report is followed by a discussion of the exceptions to these generalizations and includes evidence from some trade associations that their members took changes in interest rates into their planning, evidence from some bankers on the apparent responsiveness of some of their customers and some examples of reduced expenditure by local authorities in response to increases in interest rates.

On the evidence from the surveys they concluded: "The results of these questionnaires add up to substantial evidence that a proportion, big enough to be relevant to policy, of business firms were vaguely discomforted by the changes in monetary conditions in 1955-57, and especially in September 1957; but we have not found sufficient evidence to justify a conclusion that in the conditions of the 1950s the rise in interest rates would by itself have directly provoked a worthwhile curtailment of demand. Nor did we hear any evidence that the reductions in interest rates in 1953-54 directly stimulated any appreciable increase in demand, although, analogously to moves in the opposite direction, they may have had some part in encouraging firms to think in terms of expansion." (Report, para. 453).

Oxford Institute of Statistics

The Oxford Institute of Statistics conducted an interview survey⁷ of 876 small and medium-sized firms between April and June 1956. The results were reported in the *Economic Journal* of September 1957 by H.F. Lydall. Since the questions asked in this survey were rather different than those asked in the Birmingham and FBI questionnaires it is difficult to compare the results directly. The firms in this group were asked the following four questions directly bearing on the responsiveness of expenditures on plant, equipment and inventories to changes in credit conditions:

- 1) Has the credit squeeze of the past twelve months caused you to order less capital equipment than you had originally intended?

⁷ The original list contained 1765 addresses; 223 were eliminated because they could not be located or were branches, subsidiaries, etc., 1542 were asked for an interview, 955 provided answers, 79 were excluded for various reasons and thus the final sample contained 876 firms.

- 2) Has it caused you to reduce your stock of purchased materials or parts?
- 3) Is that mainly because the credit squeeze has made it more difficult for you to raise finance or because you are worried about its effects on your customers?
- 4) Is that mainly because of the *higher cost* due to the increased interest rate or because of the *difficulty in raising* loans?

In answer to question (1) 23% of this group of small and medium-sized business firms had revised their fixed capital plans and 26% had cut their stocks of materials and parts. It was reported that "About half of the firms in each of these groups (113 firms in all) had reacted to the Credit Squeeze in both ways, while 84 firms which had reacted by ordering less equipment had not cut their stocks and 107 firms which had cut their stocks had not revised their orders for equipment." Thus 304 firms, or 35% of the total in the sample had reacted in one way or the other to the credit squeeze.

On the face of it, this would appear to indicate a higher degree of responsiveness than shown by either the Birmingham or the FBI survey which involved the same period. To some extent this is to be explained by the broad construction placed on the phrase "credit squeeze". Of the 304 firms which had responded by reducing fixed investment or inventories, 141 said their main reason for cutting was that they were worried about the effect of the credit squeeze on their customers. Only 131 attributed their reaction mainly to the difficulty of raising finance. In short, only about 15% of the firms responding attributed the reduction in fixed investment or inventories to the direct effect of the credit squeeze on themselves. This is roughly the same order of magnitude as the two earlier surveys.

The Ebersole Study of the Harvard Business School Cases

A report⁸ of a study of the influence of interest rates on entrepreneurial decisions based upon the cases in the files of the Harvard Graduate School

of Business Administration was made to the American Economic Association in December 1937 by J.F. Ebersole. The cases had been collected by trained investigators over a period of around twenty years and at that time exceeded 13,000. The cases were filed under topic headings and two samples were chosen which included topics covering decisions which might be related to interest rates.

In the first group of 16 topics some 93 out of 591 cases were found which involved entrepreneurial decisions of business of a type in which interest rates might have been a factor. In 63 of these cases the interest rate or cost of capital was not mentioned. Of the 30 cases in which the interest rate was mentioned, there were 20 in which it was not a factor contributing to the decision. In the 10 remaining cases the interest rate was recognized as a factor but, as Ebersole pointed out: "Of the 10 cases in which the interest rate was a factor, not one case was found in which it was either the sole or the decisive factor!". A second group of topics yielded 1,637 cases and a sample of 166 was selected from this group. Ebersole reported that "In none of the 166 was the interest rate mentioned".

On the basis of this evidence and a study of the attention given to the subject in the teaching of the Harvard Business School, Ebersole suggested that there was a strong presumption favouring the following thesis:

"The interest rate is not viewed as an important problem by business management; the interest rate is seldom considered as a factor in the entrepreneurial decisions of business to expand or contract, and is a controlling factor in a negligible number of instances".

The Eisner Survey

The interview study carried out by Robert Eisner in 1951-52 and 1954-55 is one of the most interesting of the American surveys which touch upon the effects of credit conditions on capital investment. The Eisner study represented one phase of a large research project on "Expectations and Business Fluctuations" and Eisner's major purpose was to gain information on the determinants of capital expenditure. The coverage

⁸ See J.F. Ebersole, "The Influence of Interest Rates upon Entrepreneurial Decisions in Business - A Case Study", *Harvard Business Review*, Autumn Number, 1938, pp. 35-39.

was small, the survey being restricted to 14 manufacturing corporations in the Midwest and Eastern United States. The treatment, however, was highly intensive and Eisner's report⁹ is a very full one.

Questions were asked on the sensitivity of the firms to changes in credit conditions and the results were as follows:

"The interviews suggested that the supply of money capital was not a crucial determinant of capital expenditures." (27)

"Questions directed at the role of the 'interest rate' received almost uniformly negative response. However, by the 'interest rate' the business respondent hardly conceives of the symbol of a whole structure of capital costs to which the theoretical economist has given so much attention. Our interviews suggest the need for fewer stereotyped questions in this area and more careful probing along lines of capital cost relevant to the firm". (27-28)

After expressing caution about the tentative nature of the results Eisner concluded:

"...perhaps the one definite conclusion that this writer may allow himself is the essentially negative one that the interview technique cannot by its nature, in an area of this kind, be definitive. It can suggest ideas and theories, offer new insights into relationships uncertainly grasped. But explanation and prediction of economic variables must finally receive confirmation in the operation of these variables themselves, and not in the subjective explanations of those who presume to control them". (37)

Conclusion

It would be easy to write a highly critical analysis of the research summarized above merely by collecting in one place to critical comments of the authors themselves. There would probably be general agreement that the mail surveys have purchased wide coverage at the expense of accuracy and depth, and that the interview studies

have achieved accuracy and depth at the expense of coverage. One exception is the Oxford Institute Study which through the use of a team of interviewers obtained a fairly high response rate for a limited set of questions.

It is unfortunate that the pre-war Oxford interview study and the Eisner survey were so limited in scope and took place during a period when monetary policy moved within a very narrow range. With a wider group of firms in a different period, they would probably have reached somewhat more qualified conclusions.

It is also unfortunate that the Oxford mail survey and the three mail surveys submitted to the Radcliffe Committee were not supplemented by follow-up interviews. This has led to speculation about the characteristics of firms which failed to respond and doubts about the interpretation of particular questions by respondents.

In view of the uncomfortable nature of some of the results and the limitations of this research, it is not surprising that there has been a stream of critical comment. Some critics have emphasized the inadequacies of the existing surveys and pointed out that reliable results were not to be expected. The most effective way in which these critics could have disposed of the results of previous survey research would have been by carrying out an interview study of wide coverage and considerable depth which revealed that corporate decisions were highly responsive to changes in credit conditions. To date no such survey has appeared.

Other critics have concentrated their fire on the method itself. They have asked whether this technique can, in the nature of things, provide reliable knowledge about the effectiveness of monetary policy. This broader question will be discussed after a description has been given of the techniques used and the results obtained by those carrying out the Commission survey.

⁹ Robert Eisner, *Determinants of Capital Expenditures — An Interview Study*, University of Illinois Bulletin, 1956.

THE PRESENT SURVEY

In designing and carrying out the present survey we have profited from the experience of our predecessors. It was clear from the outset that the most carefully designed mail survey was open to serious limitations. There are obvious difficulties in obtaining accurate answers to complex questions of motivation by means of a mail enquiry and limits to the amount of information one can expect to obtain using this technique. This led us to begin by placing the main emphasis on interviews.

The Initial Interviewing Programme

The immediate question which arose was which firms should be interviewed. Since we were attempting to discover the quantitative impact of monetary and debt policies, and since there are several corporations in this country which individually have annual capital expenditures which are greater than the combined capital expenditures of the 40,000 odd companies listed in *Taxation Statistics* with assets under \$100,000, it was evident that a stratified sample was required. It was therefore decided at the outset that an attempt should be made to interview all of the non-financial corporations in the country with assets over \$90 million and a stratified sample of smaller firms.

Of the 83 firms with assets more than \$90 million as of December 31, 1961, 79 were interviewed personally, two mining corporations with offices some distance from major centre were questioned extensively through correspondence, and there were only two firms with whom interviews could not be arranged. In the case of almost

all of the firms interviewed, the co-operation went much further than the granting of an interview. The great interest shown and the assistance given by corporate officers did much to enhance the value of the study.

In view of the size of the task of questioning these firms and others which were to be selected, there was much to be said for the use of a team of professional interviewers. This alternative was not adopted and instead the interviewing was done by economists. This had certain advantages. Most economists begin with a natural bias in favour of the price system and when they encounter, as they commonly do, a lack of sensitivity to the cost and availability of credit on the part of businessmen, they are inclined to press rather hard in an effort to detect any responsiveness which exists. This provides no guarantee that they will bring to light all the responsiveness which is present. When a group of two or three economists interview a group of two or three corporate officials for a whole morning or afternoon and emerge from the interview with the conclusion that the corporation's decisions on the purchase of plant, equipment and inventories have not been significantly affected in the recent past by the cost and availability of credit, this does not necessarily mean that there has been a total lack of responsiveness. The executives may not be fully informed or may not be able to remember or to disentangle the major factors which played a part in their decisions. Moreover, the economists may have failed to ask all the appropriate subsidiary questions arising out of the answers to some of the key questions. If, however, the executives concerned are well informed and if the economists carrying

out the interview are alert to seize any opening which indicates a possible avenue of influence for the cost and availability of credit, then the likelihood of an erroneous impression is rather less than might be the case with professional interviewers working from an entirely pre-determined set of elementary questions.

One of the limitations of some of the earlier surveys was the lack of quantitative information on the extent and timing of the response to monetary policy. It is possible to gain a general impression of the degree of responsiveness of the corporate sector by the simple expedient of counting "yes" and "no" answers to questions but, as those responsible for earlier surveys have pointed out, there are problems in aggregating the results. In the present survey any firm which indicated responsiveness to changes in the cost and availability of credit was asked to identify the particular projects which had been affected, or, if the capital expenditure could not be readily identified, executives were asked to estimate as accurately as possible the amounts involved. Firms were also asked to identify as accurately as possible the date on which decisions were made to reduce or increase expenditure on plant, equipment or inventories in response to changes in credit conditions. They were also asked to estimate the period during which the initial income and employment effects of the expenditure would have occurred.

The pattern of the interviews of the large firms followed fairly closely the questionnaire appearing in Note 1 at the end of this appendix, with the addition of the following question which was used to open the interview:

1. When considering whether or not to make new capital expenditures, most firms require that a project promise a particular rate of return or payback period, or perhaps use different standards for different types of capital expenditures.

- (a) If you employ any such standards, please state them as explicitly as possible, and the types of projects to which they apply.

- (b) Have you changed any of your standards since 1950? If so, please give the date and your reasons for making the changes.

Sometimes a full hour would be devoted to an extended discussion of the techniques used by the firm in reaching decisions on capital expenditure. This permitted the interviewers to explore many of the avenues through which a change in credit conditions might influence these decisions. The next set of questions led to a discussion of the way in which the financial arrangements of the firm had been altered in the light of changes in credit conditions. A final judgment on the extent to which the firm's decisions on capital expenditure had been influenced by credit conditions was not therefore required until a good deal of preparatory discussion had taken place.

The interviewing of this group of firms was done by one, two or three of the Commission's economists acting as a team, with seven different interviewers taking part in some interviews during the course of the project. Continuity was provided by using a uniform questionnaire as a basis for all the interviews and by the presence of one staff member, Mr. John F. Helliwell, at all but two of the large firm interviews. The usual procedure was to send a copy of the questionnaire to the corporation several days before the scheduled date of the interview. During the intervening period, staff members would go over the financial statements published by the firm since 1954 in order to understand as much as possible of the financial background and present situation of the firm.

As the interviewing programme developed, consideration was given to supplementing the interviews with a mail survey. It was recognized that the results of such a survey would need to be treated with caution but if it were accompanied by an extensive programme of follow-up interviews, misleading impressions could be avoided. Moreover, as it became clear that many cases of responsiveness were required if an impression of the length of the lags in the system were to be developed, it was important to find a way of being brought into touch with firms which had responded to changes in credit conditions.

The Pilot Mail Survey

The decision was then taken to run a pilot survey. Although no great hopes were held for the results, two versions of the questionnaire were mailed in June, 1962 to two samples of firms selected by the Business Finance Division of the Dominion Bureau of Statistics. The sample was chosen so that all major regions, size classes and industrial groupings would be represented. One group was sent a short questionnaire, Part A, and the other group received in addition a form, Part B, requesting some statistical information from the firm's records. The object of using the split sample was to see whether the response rate was materially reduced by a request for statistical information requiring some analysis of the firm's accounts. In the event, the response rate proved surprisingly high for both questionnaires, being 92% for the firms sent only Part A and 66% for the firms sent both Part A and Part B. A series of 13 follow-up interviews were then carried out to assess the reliability of the questionnaire answers. It was clear that the response rate to the test questionnaires was encouraging, being high enough to reduce the possibilities of non-response bias. Moreover, while the respondents frequently interpreted the questions in a different way than the questioners intended, a good deal of useful information was provided. It was decided, therefore, to press ahead with a more extensive mail survey.

The Mail Survey

In order to gain as much information as possible without materially lowering the response rate, the questionnaire was re-designed so as to provide more information than Part A of the mail test while still demanding less record-searching than Part B of the pilot survey. The questionnaire was also expanded to make reference to the mid-1962 period of credit restraint. The final mail questionnaire is shown in Note I at the end of this appendix.

The questionnaire was, of course, intended to be free of "leading" questions, the emphasis

being on obtaining a description in some detail of changes actually made in corporate plans. If there was to be any misunderstanding, it was thought better to risk detecting reactions which did not exist than to risk failing to find any actual response. The respondent was asked therefore, to reply affirmatively if changes in credit conditions since 1954 had been "in whole or in part" responsible for leading his firm to make one or several of a number of itemized changes. The purposes of listing numerous possible changes was to bring to the executive's mind reactions which he might otherwise not have recalled, or not have attributed to changes in credit conditions. The concomitant danger, of course, was that a respondent would indicate that a change was made even if it had been made for reasons entirely independent of changes in credit conditions. In the case of Question 1, the danger was increased because some of the sub-questions were some distance down the page from the main reference to credit conditions. The purpose of the questions dealing with sources of funds was in part to provide background information useful as a check on the subjective answers, and in part to discover whatever relationship there might be between sources of funds and the effects of changes in credit conditions.

Following the principle of covering the maximum amount of capital expenditures with a given number of questionnaires, the mail sample included all firms with assets over \$5 million as at December 31, 1961, and a stratified sample of 1065 smaller firms. Firms with assets over \$90 million had estimated capital expenditures of around \$2 billion in 1959; those with assets of \$5-\$90 million spent \$1.2 billion; while corporations with assets below \$5 million and unincorporated businesses made capital expenditures in 1959 totalling an estimated \$800 million. The interviews with the largest firms and the full coverage of the firms with assets over \$5 million therefore provided direct evidence about the responsiveness of decision-makers responsible for over 75% of the capital expenditure of non-financial companies. The principle of covering as much expenditure as possible was dropped for the firms under \$5

million in assets, as the survey was also intended to provide evidence on the effects of monetary and debt policies on firms of different sizes.

The original mailing to firms with assets over \$5 million was made on August 23, 1962 to a list of 837 firms prepared by the Business Finance Division of the Dominion Bureau of Statistics with a covering letter from the Secretary of the Commission to the President of the firm. Two follow-up letters were sent to non-responders, one in late September and another in November. As the completed questionnaires came in, many firms in this group were seen to have assets less than \$5 million at December 31, 1961. The questionnaires from such firms were put aside for separate consideration. By January 1963, the Business Finance Division had prepared a supplementary list of firms thought to have assets over \$5 million. Questionnaires and follow-up letters were sent to these firms. When the asset sizes of non-responders were finally established as closely as possible, with firms owned more than 50% by other Canadian corporations being consolidated with their parents, there was a file of 698 names of firms with assets over \$5 million at the end of 1961; 586 or 84% of whom had completed and returned the Commission's questionnaire. One hundred and seventeen of these firms were interviewed.

The sample of firms with assets under \$5 million was chosen on a random basis from four size classes of firms on a list of all corporations with assets over \$25,000. The four size classes were under \$100,000 in assets at December 31, 1961; assets between \$100,000 and \$250,000; between \$250,000 and \$1 million and between \$1 million and \$5 million. The number of firms chosen in each size class was roughly equal to the number of millions of dollars of capital expenditures made in 1959 by firms listed in the Taxation Statistics as being in that size class. The object of this method of selection was to have each questionnaire "represent" an equivalent amount of capital expenditures so that the simple counting of responses might retain some significance. This had the disadvantage that given the limited capital expenditures by the smallest firms, only 108 questionnaires were sent to this size group. A total of 1065 questionnaires were sent out to the four size groups on

October 3, 1962. One follow-up letter was sent in November and another in January, 1963. Letters received from or on behalf of 24 firms indicated that they were out of business. Thirty other firms indicated that they had become, or had always been, wholly owned subsidiaries of other Canadian corporations. Eight firms had moved, leaving no forwarding address. Of the remaining 1003 firms, 635 or 63% returned completed questionnaires. Of the 635 firms which completed the questionnaire, 89 or 14% were interviewed by staff members.

While these response rates were high, this left just under 500 firms from whom no reply had been received. There is always a justifiable curiosity about the nature of the non-responders, both on the part of those carrying out surveys and those reaching a judgement about the accuracy of the results. Frequently this leads to a good deal of more or less idle speculation about the possible biases introduced. In order to avoid this, we got in touch directly, either personally or by telephone, with over 100 firms which had failed to respond to the questionnaire. The amount of information obtained from individual respondents through this technique varied considerably but, as will be indicated in our discussion of this group in a later chapter, it laid to rest a number of hypotheses which might have been developed about these firms.

General Observations.

In succeeding chapters frequent reference will be made to the reservations and qualifications necessary in interpreting the results of specific parts of the Survey. There are, however, at least two general reservations which should be stated at the outset: one concerning the indirect effects of changes in credit conditions and the other relating to the functions of the executives who supplied the bulk of the information obtained.

As pointed out in Chapter II, the indirect effects of changes in credit conditions lead to some possibilities of ambiguity. Firms were told that in 1956-57, 1959-60 and in mid-1962, funds became less available in Canada and interest rates increased. They were then asked whether changes in the availability or cost of credit were in whole or in part responsible for leading their firms to change any of a number of financing and

expenditure policies. Similarly, they were told that in 1961, and early 1962, funds became available and interest rates decreased. They were then asked if these changes in the availability or cost of credit were in whole or in part responsible for leading their firms to alter their financing or expenditure policies.

It was apparent from follow-up interviews that those answering the mail questionnaire frequently indicated that a change of policy had occurred when this was not in whole or in part the result of changes in interest rates or the availability of funds, but resulted from other considerations. Throughout the programme of interviews care was taken to ensure that the changes in corporate policy being isolated were in fact related to changes in the cost and availability of funds. In short, the Survey was attempting to compare the decisions which were made, with the decisions which executives said would have been made in the absence of a change in interest rates and the availability of funds.

This technique might easily yield some underestimation of effects, particularly under the flexible exchange system which prevailed for most of the period relevant for the Survey. Changes in interest rates and the availability of funds in Canada had effects on the exchange rate and through the exchange rate on the exports and imports of goods and services. Similarly, changes in credit conditions also directly affected consumption, government expenditure and residential construction. Thus through both international and domestic channels, credit conditions had effects

on the demand for goods and services provided by corporations. Some of these effects, particularly the assumed direct effects of credit conditions on the firm's customers, are taken into account by corporation executives. Others, such as the repercussions through the exchange rate, are not explicitly taken into account, although knowledge of the existence of effects of this kind may contribute to the general "climate" created by a change in credit conditions. The effects which we set out to identify were those taken into account by the corporations, i.e. the direct effects on the corporations and the recognized effects on others which influenced corporate decisions. An estimate of the total effects of credit conditions on corporate expenditure must make an additional allowance for the unrecognized indirect effects.

The second general observation which should be made concerns the background and professional interests of the bulk of the executives who were interviewed or who filled out mail questionnaires. With some exceptions, the executives who have supplied information have been the financial officers of the corporation, i.e. those belonging to the group within the corporation most closely aware of changes in credit conditions and most likely to stress responsiveness to changes in the cost and availability of credit. Our experience suggests that a broader sample of executives, which included those primarily concerned with production and sales, would have suggested less responsiveness to changes in credit conditions. The results of the Survey should be read with this in mind.

MONETARY POLICY AND CORPORATE FINANCE

The results of the Survey can be presented in a variety of ways. As indicated above, in the large firm interviews we began our enquiries by discussing the criteria used in reaching decisions on investment on plant and equipment and at a later time raised questions about the financial adjustments which had accompanied changes in the cost and availability of funds. In the mail questionnaire, on the other hand, questions on financial adjustments to changes in credit conditions preceded the questions dealing with changes in investment decisions. There is some logic in the latter order. The authorities exercise an influence over the financial system and either initiate or acquiesce in a change in credit conditions. Some firms are so placed that changes in the Canadian financial system have little or no impact on their financial arrangements. This may be because they are financing all their development from their own cash flow, or because they have access to ample funds from a foreign parent, or for a variety of other reasons. If their financial arrangements are unaffected by changes in credit conditions, it is unusual to find that their decisions on inventories, plant and equipment are affected. Other firms are affected in their financial arrangements by changes in credit conditions but by one means or another are able to make financial adjustments without altering "real" decisions, i.e. decisions on the purchase of inventories, plant and equipment.

In other cases, changes in credit conditions have an effect on the financial arrangements of the firm and in turn on decisions on investment in inventories, plant and equipment. This is the purpose of the change in credit conditions and to

the extent that the actions of the authorities reach through the financial system and the financial arrangements of non-financial corporations to their decisions on expenditure on real goods and services, monetary and debt policies have effects on aggregate demand. If these effects are so distributed through time that they curtail corporate expenditure on plant, equipment and inventories when there is excess aggregate demand and encourage corporate expenditure when there is inadequate aggregate demand, monetary and debt policies contribute to the stabilization of the economy. There are, however, several steps in this process and in this chapter we shall concentrate on the way in which the actions of the authorities and their effects on the financial system impinge upon the financial arrangements of non-financial corporations. The questionnaire replies are summarized in Tables V-1 and V-2 at the end of this chapter.

For the period covered by the mail survey and the interviews, interest rates and the availability of credit changed several times. It might be thought that these changes would follow a definite pattern, but this has not been the case in recent years in Canada. It might be expected, for example, that when there is a change from credit ease to credit restraint this would begin with a change in short-term market rates leading with a lag to a rise in long-term market rates and with a further lag to increases in other lending and borrowing rates and to limitations on the availability of funds. This has some claim to be regarded as the "normal" pattern, but it is to be expected that if the initial change in short rates is a decisive one the impact will be felt immediately in the

long-term market. Moreover, there is no reason why a change in the market for long-term securities cannot on occasion precede a change in the money market. If participants in the long market foresee changes in the underlying forces and anticipate the action which will likely be taken by the central bank, there may be a change of direction in the long market in advance of a change in the money market. Further, even if the change in the long market lags behind the change in the short market, the swing in long rates may be wider or narrower than previous responses to a change in short rates would have led one to expect. For example, long rates in Canada fell very sharply in 1957 and rose in 1958 prior to the reversal in short rates.

A similar diversity of pattern is to be found in changes in other lending and borrowing rates and limitations on the availability of funds. There is no fixed period in which other rates respond; the lag in either direction varies to some extent from period to period. Lags in changes in the restraints on bank lending also vary with the direction of changes in monetary policy and from period to period. The chartered banks emerge from a period of credit ease with a large portfolio of securities and if the central bank restricts the increase in cash reserves early in the expansion, the banks respond to the increased demand for loans by running off or selling part of their portfolio of securities. This process may go on for as long as a year with borrowers encountering increasing limitations on the availability of bank credit. If, on the other hand, the central bank restraint is applied late in the expansion when the banks' holdings of securities are already low, the response will be more rapid. Since banks do not have to rebuild their portfolios before easing the availability of credit when the process is reversed, it might be expected that changes in the other direction would be quite rapid. In fact, in recent years borrowers have found that shifts in the direction of credit ease have been fairly gradual.

A change in credit conditions will, of course, have no effect on corporate decisions if firms are not aware of the change. As pointed out in the previous chapter, the officials with whom we dealt most frequently were the financial officers of corporations and they are generally quite sensi-

ve to changes in financial markets. If, for example, the first indicator of a change in direction in monetary policy is a change in short term interest rates, the financial officers of a high proportion of the large and medium sized corporations in the country are aware of the change in a matter of hours. Virtually all large non-financial corporations and a significant proportion of smaller companies are either borrowers or lenders in the short term money market and follow market trends closely. The financial officers of companies which do not deal in the short term money market are customers of financial institutions and often follow developments in the financial press. Thus changes in short-term interest rates do not pass unnoticed even though firms may rightly judge on the basis of past experience that not too much significance should be read into every week-to-week change in the treasury bill rate.

If the change in short-term interest rates persists, or if the initial change is a decisive one, the effect will be felt in the market for long term securities. Corporations planning new issues are quickly made aware of any developments in the bond market which will raise the price they must pay in order to obtain accommodation. Similarly, if rates fall even firms which do not have an immediate need for funds may have the favourable conditions drawn to their attention. Other lending and borrowing rates, including the prime rate on bank loans and the rate on mortgages, can be expected to change although in some cases there is a considerable lag. Changes in the availability of credit, unless decisive or unless affecting the firm directly, may not register as quickly as changes in interest rates, although financial officers tend to be sensitive to any indications that money is becoming difficult to obtain.

The financial officers are, of course, only one element in the corporation, and while information on the existing state of financial conditions may be conveyed to other executives, it may have a more limited impact on the thinking of those not directly concerned with financial matters. In much the same way, while changes in financial conditions may have a considerable impact on financial decisions, the effect on "real" decisions — i.e. decisions affecting expenditure on plant, equipment and inventories — may be much reduced. A

decision to switch from one source of funds to another, or from one type of lending to another, may well be dependent upon relative costs or yields and little else. On the other hand, a decision to proceed or not to proceed with the construction of a plant or the purchase of equipment may affect all divisions of the company and many considerations, in addition to short run financial conditions, will be taken into account.

This is not to suggest that the financial arrangements of firms are always flexible, adaptable and characterized by a close attention to short-run profit maximization while decision making on the "real" side of the firms' activities is always inflexible, lacking in adaptability and insensitive to profit considerations. In the case of many firms, the financial officers operate under fairly restrictive rules either self-imposed or imposed from above, which are not always consistent with obtaining the maximum benefit from the financial resources of the company or minimizing the burdens of borrowing. Thus opportunities for switching from one financial asset to another or from one source of funds to another are not always taken, even when financial considerations would dictate that such shifts be made. On the other hand, examples will be cited below of firms which have been far from insensitive in their "real" decisions in response to changes in financial conditions.

Nevertheless, as a general rule there is a difference of degree which in many cases almost amounts to a difference in kind, in the extent to which the financial side of a firm's activities responds to a change in credit conditions as compared with the "real" side. Indeed, in some companies it is regarded as part of the function of the financial officers to devise financial arrangements which protect the firm from the consequences of short-term changes in financial conditions. If, then, an uncomfortably high price for finance or lack of availability of funds prevents the operating divisions from carrying forward their plans, this is sometimes regarded as evidence of failure on the part of the financial officers. At the same time, the influence rarely runs in only one direction. While the cautious, calculative approach of the financial officers may often lose a battle to the enthusiasm of the marketing divi-

sion for sales or the manufacturing division for technical improvements, financial considerations necessarily have a continuing influence in an organization which must realize profits in order to survive. To the extent, therefore, that the views of the financial officers are influenced by the state of financial markets, this can exercise a subtle but important influence over the capital budgets and expenditure plans developed by operating management.

As in the case of other corporate decisions, it is often difficult to separate the specific responses to changes in monetary policy from other developments which have taken place concurrently. During recent years, some major changes have taken place in the financial system and to some extent corporations have been responding to these developments rather than reacting to particular changes in monetary conditions. For example, the expansion of the commercial paper market, the spread of sale and leaseback arrangements for the finance of commercial real estate and other capital assets, the growth of equipment financing arrangements, closer links with the capital markets of other countries, and an expansion of the lending activities of some financial intermediaries such as the Industrial Development Bank have all been part of our recent financial history. During the same period, there have been recurring periods of credit ease and credit restraint. Some developments in financial practices have come in response to changes in credit conditions but have tended to persist into succeeding periods when credit conditions have altered in the opposite direction. For example, during a period of credit restraint, corporations may develop techniques for reducing the level of their cash balances and these techniques may continue to be used in succeeding periods of credit ease. There are thus difficulties in disentangling the specific effects of changes in credit conditions from the effects of other changes. Nevertheless, it is clear that the financial arrangements of many firms have responded in a variety of ways to changes in credit conditions in Canada.

(a) Borrowing Abroad

If interest rates rise and funds become less available in Canada, and this either does not

happen or happens to a lesser extent in other countries, borrowing abroad will be a relatively more attractive alternative than in the absence of such a change. It might be expected, therefore, that during periods of credit restraint some firms which would otherwise seek funds in Canada will go abroad. Similarly during periods of credit ease, accommodation which might have been sought abroad will be found in Canada. The following example indicates the way in which a company's choice between the Canadian and American markets is influenced by credit conditions in Canada:

"In the spring of 1957, it was decided that we would build a new plant.... The land was purchased.... and architects were given the job of making plans for a new building, which would cost in the neighbourhood of three million dollars. In the fall of '57, our Treasurer from New York and myself visited several financial institutions in Toronto in an effort to raise this money, but found practically the same answer in nearly every office, that money was very tight and if we wanted that amount we would have to pay a high interest rate. We were quite agreeable to a mortgage at a reasonable interest rate on which we could start payment in a year or so and extend this over a ten or fifteen year period, but we found that places that were willing to take on such a loan did not want any payment for some years in order that they could continue to draw these high interest rates.

"It was decided that if financing conditions did not improve by the time we needed the money we would secure the money in the United States rather than Canada. However, by the spring of 1958 money was much easier and the Chartered Banks with whom we had dealt... for many years agreed to lend us one and a half million each to be taken down as needed with the idea that we would reduce this loan as much as possible within the next year. ... By December of 1958, we had borrowed \$2,685,000 and by December of 1959, through reduction of inventory and the sale of our plants ..., we had reduced this loan to \$1,200,000. It was then agreed with the banks that we could pay for the balance over a three year period and thus save us from going into any long-term financing. The balance of this loan was paid off in August of this year (1962), but it does show how a project can be started and if you do not have access to other money markets you might have to delay your project until outside financing was more favourable.

"There was no question at any time that our credit was not good enough for the loan, and our American parent company was willing to guarantee any loan which we made in Canada."

Other examples indicate the play of similar forces:

A large shipping company, which occasionally finds financing for ship construction in Canada, was forced in late 1959 to go to New York to secure "the amount of funds needed at reasonable rates".

A manufacturing firm, a subsidiary of a European parent, sought one and a half million dollars on the Canadian market in early 1960 for expansion of its production facilities. Funds were not available without a guarantee by the parent company. The parent was unwilling to give such a guarantee and the firm arranged borrowing in Switzerland "at rates lower than those prevailing in Canada".

"The shortage of bank money since mid-1962 has made it necessary for us to go outside Canada to obtain funds for short-term financing of certain oil properties which we normally finance by production loans in Canada". (An oil company)

In other cases, there was borrowing abroad but it was less clearly identified with changes in credit conditions in Canada.

"During the time of the building of the prairie section of the Trans-Canada Pipeline (which was government financed) we were restricted to bank loans of \$250,000 or under, so were unable to modernize to meet the dump gas competition. Purchase of new assets of \$2,000,000 was made in 1958, financing originally planned in the U.S.A. later changed following increase of bank loan limit of \$1,000,000". (A fuel company)

"\$300,000 was borrowed outside Canada (in 1959-60) for plant extension. This was unsecured and at a lower rate of interest than was obtainable in Canada. These favourable conditions were the reason for the loan rather than any specific changes in monetary policy by the Canadian government". (A clothing manufacturer).

In some cases, the links between the American and Canadian capital markets are so close that firms are largely unaffected directly by changes in credit conditions which are restricted to this country. This is notably the case with branches or subsidiaries of American corporations but it also applies in part to the subsidiaries of parents in other countries and some Canadian-owned firms.

The following replies to the mail questionnaire were received from American oil and pipeline corporations carrying out operations in Canada.

"We have never borrowed funds in Canada for our Canadian operations, and during the period when

we were spending large sums for oil land acquisitions and development, funds were provided by transfer from the United States".

"The changes in availability of funds and interest rates in Canada do not affect our planned capital expenditures or financing policies. The..... Corporation is a Delaware, U.S.A., corporation and conducts petroleum producing and exploration operations in Canada through a branch. It is not involved in borrowing in Canada".

"This is to advise that the..... Company is incorporated in the State of Delaware, U.S.A., and is wholly owned by U.S.A. corporations. All funds for original and subsequent financing were provided by the owners with U.S.A. dollars and any future financing will probably be in the same manner."

Much the same kind of response was received from subsidiaries of many American companies:

"Since 1957 we have been required by our parent company (U.S.) to borrow from them. However, in the last few years we have not needed their help." (Retail drug chain)

"Occasionally we borrow, mostly from U.S. banks, on 90-day notes for inventory and accounts receivable expansions. We borrow irrespective of current interest rates. The notes are repaid during the second half of the year. The financial policies of the parent and subsidiary companies are influenced more by the fiscal and monetary policies of the U.S. Government." (Clothing manufacturer)

"... our company is not affected directly by increases or decreases in interest rates. We do no outside borrowing and invest surplus funds for short periods regardless of interest rate levels. We are a wholly-owned subsidiary of the United States..... Company and all of our expansion has been financed out of earnings or by temporary parent company advances". (Minerals)

"Funds for capital expenditures and working capital were provided by the parent company, shares being issued to the amount of \$7,000,000. After the completion of our capital programme, there was, of course, no capital expenditure programme beyond that for jigs and fixtures for new models. At times funds were transferred to us for increased working capital and at others we transferred excess funds to the parent company. At no time have we been dependent on Canadian financial institutions for credit." (Electrical equipment)

"Firm relies on advances from parent company." (Forest products)

"Current fund requirements and capital funds are supplied by our parent company. Current funds in

excess of those required are remitted to our parent company monthly." (Rubber goods)

"Financing handled through parent company." (Metal manufacturing)

"Our company is a wholly-owned subsidiary of an American company. Capital expenditures budgeted for and approved by parent company on a company-wide basis and the availability of funds for the entire company." (Food products)

"Any funds required are borrowed through U.S. parent company. We do not have a line of bank credit established in Canada." (Clothing manufacturer)

"No line of credit used at present time. Funds obtained from parent company in the United States when needed." (Metal manufacturing)

Some American subsidiaries secure their financing from the parent by postponing payment for goods and services received. In the course of the survey we have encountered individual accounts payable to American parents which have gone as high as \$40,000,000. Sometimes a combination of techniques is used. One oil company reported that it had borrowed \$20 million from its parent and at the same time had an account payable to the parent which varied seasonally from \$15 million to \$20 million.

Many English parent companies appear to leave their subsidiaries more dependent upon their own retained earnings and funds which they can raise in Canada.

"The main point so far as we are concerned is that our desire to expand is dictated not so much by the cost of funds as by their availability and the fairly limited choice of projects available in the..... manufacturing industry to a company of our size. I think that normally a company such as ours, which is now part one of the six largest..... groups in the United Kingdom, would expect to finance its expansion by means of permanent capital rather than by relatively short-term bond issues. We are, however, as you will realize, cut off from our group funds by exchange restrictions and we therefore have to make our way slowly by taking on one relatively small project at a time with a view to building up capital sources within the dollar area." (Manufacturing)

Other subsidiaries of English companies encounter fewer difficulties in obtaining finance:

"We can say generally that credit conditions in Canada have not had any effect on our capital

expenditures and financing policies. We are a wholly-owned subsidiary of an English company and our long-term financing has been provided by our Parent Company. Short-term financing, when necessary, has been from a line of credit with our Canadian Bank." (Textile manufacturer)

Given the high proportion of Canadian corporations which are wholly or partly owned abroad, it is clear that arrangements of the kind illustrated above tend to reduce the direct impact of changes in monetary policy on the expenditures of a substantial portion of Canadian industry. As might have been expected, Canadian owned corporations, particularly corporations lacking a current flow of foreign exchange earnings, have been more reluctant to turn to foreign markets. The exchange risk of foreign-pay borrowing has weighed heavily with many executives and even where the combined effect of the interest differential and the assumed exchange risk has made foreign borrowing attractive, there seems to have been a reluctance in many cases to assume obligations in a foreign currency which are not hedged by earnings in that currency. The alternative of going abroad is, moreover, not readily open to smaller Canadian-owned companies.

An analysis was made of 70 non-government corporations with assets over \$90 million to determine the pattern of their financing. Of this group of 70, twelve use the funds of a foreign parent as their usual source of funds, while a further six employ foreign capital markets as their usual source of medium and long term funds. Of the 37 firms which have not used any foreign funds during the survey period, twelve have relatively free access to funds from foreign parents but have either not needed new funds to any extent or have been able to get sufficient funds in Canada at acceptable rates. The other twenty-five either did not borrow or have not considered foreign capital markets to be an alternative source of funds. The remaining fifteen of these 70 firms borrow abroad intermittently and all have done so at least once since 1954. Four of the fifteen firms suggested that they borrowed more outside Canada than they would have borrowed if credit conditions in Canada had remained easier.

Among the firms with assets less than \$90 million there was a smaller proportion which

switched to foreign sources of funds during one of the periods when interest rates rose sharply in Canada. About 2½% of all the firms surveyed by mail indicated that they went outside Canada for funds in 1959-60, the proportion being about three times as large for firms with assets \$5 - \$90 million as for those in the small firm sample.

The foreign sources resorted to by Canadian firms in times of credit restrictions included bond markets, large financial institutions willing to take up bond issues or make direct loans, associated companies, financial and non-financial institutions providing mortgage or sale and leaseback funds and banks. The following examples indicate the nature of this borrowing:

A food manufacturing company pointed out that when from time to time interest rate differentials have become large between the United States and Canada the company borrowed short-term from United States banks.

An oil company reported that it was "driven to the U.S." for funds in 1959. It was suggested that there was no doubt that the timing of their borrowing would have been different had the bank not pressed them to reduce their large outstanding bank loan.

A large international company pointed out that even though the company follows a policy of financing its activities in the countries where operations are carried on, they are willing to change their pattern of borrowing if ever credit conditions become difficult in any one country. Thus tight money in Canada and anticipated changes in the exchange rate, have often led the company to change its pattern of borrowing and its handling of net receipts in foreign currencies.

High domestic borrowing rates were considered by an oil company to be a factor leading the company during 1956 and 1959 to rely heavily on the parent company through the intercompany trade account, and in 1962 to borrow directly from the parent company in the United States.

In many cases the foreign sources provided funds on such advantageous terms that the firms would have gone abroad for the funds even if credit conditions in Canada had been much easier.

"In 1952 and 1953 debenture financing was carried out in the United States because of substantial difference in interest rates in the two countries and avoidance of underwriting commission by direct placement." (Pipe Line)

A large metal producing company pointed out that they usually borrowed from the United States whenever they had a really large issue to float, as the Canadian bond market is viewed as traditionally thin for the obligations of any one corporation. Perhaps if credit conditions had been easier in 1957 a small part of that year's issue might have been floated in Canada but it was the size of the issue rather than the interest rates prevailing in Canada which caused the company to arrange a foreign issue.

The treasurer of a large oil firm stated that even the largest Canadian insurance companies are not willing to take more than a small fraction of a major bond issue, thus forcing large companies to go to U.S. firms willing to take all or at least half of the bonds being sold.

"The shortage of bank money since mid-1962 has made it necessary for us to go outside Canada to obtain funds for short-term financing of certain oil properties which we normally finance by production loans in Canada." (Oil company)

"Short term Canadian bank loans were converted to long-term loans from United Kingdom in 1957. The long term loans were converted, in large part, to equity in 1958." (Oil company)

(b) Sale and Leaseback Arrangements.

The use of sale and leaseback arrangements to finance retail outlets has expanded rapidly in recent years. It provides a technique for attracting funds from portfolio managers looking for an attractive yield on a secure investment. It can be thought of as a mortgage financing technique which permits a company to borrow heavily without the obligation appearing directly on its balance sheet. The principal drawback of this type of arrangement is the somewhat higher price which must be paid for this method of financing as opposed to the direct issue of debentures. On occasion, however, firms which finance their outlets in this way are able to drive hard bargains and one specialist in the development of shopping centres reported that some deals of this kind have been described within his organization as "sale-lossback" arrangements.

The survey results indicate that sale and leaseback financing is frequently done abroad and some complaints were made that Canadian institutional investors were less interested in this type of arrangement than they might have been. In the

case of the retail outlets of the oil companies, the source has been predominantly in the United States including the endowment funds of some American universities. Other retail outlets have been financed in the United States but many other sources have been tapped. We were told of one retail outlet on the prairies financed by a Brazilian using Italian funds. While this was unusual there is a world market for such financing and Swiss, German, Belgian and other sources have been indicated.

The following example of leaseback financing indicates the motivation and nature of such borrowing:

A Canadian utility which made use of U.S. funds for leaseback financing in 1959-60 and in late 1961 and 1962 (totalling \$7 million) related this to the high cost of such funds in Canada and to U.S. tax law provisions which made such holdings attractive for Americans in high personal income tax brackets. The U.S. funds were obtained at 5¼% at a time when comparable funds in Canada were priced at 6¼%. Since all lease payments are fixed in terms of Canadian dollars, the company undertook no exchange risk in using the foreign funds.

In 1956 a large manufacturing company sold the land on which its present building stands, and the land and building adjacent, leasing back on a long term basis. This was done in part to conserve funds before the company went to the market, and in part to reduce the size of the debt issue which would have to be made.

(c) Trade Credit

Chapter II of the Commission's Report noted the rapid growth of trade credit in the period 1947 - 60 and in particular the substantial increases in recent years "when highly competitive conditions have forced corporations to extend more favourable terms to their customers to attract and retain business". Here as elsewhere it is frequently difficult to disentangle the changes in trade credit which can be traced to changes in general credit conditions and those which resulted from other factors.

It has been suggested that the extension of trade credit among firms in periods of higher interest rates and less available credit from other sources has the effect of equalizing financial pressures by transferring funds from those firms with relatively easy access to domestic and

foreign capital markets to those whose sources of funds are more restricted. To some extent this is undoubtedly true, as indicated by the questionnaire responses referring to trade credit. Generally speaking, the smaller independent firms have fewer alternative sources of funds than do the larger firms and might therefore be expected to rely to a relatively greater extent on trade credit. In response to the question "were changes in the cost or availability of credit in whole or in part responsible for leading your firm to ... obtain in 1959-60 more trade credit from your suppliers?", almost 11% of the firms with assets under \$5 million answered "yes", compared to 5.3% of respondents with assets between \$5 and \$90 million. The same pattern exists for 1956 and 1962. Although in most size groups there are more respondents stating that they have given additional trade credit than that they have obtained more, the difference is most marked in the case of the larger firms. For all size classes the uninterpreted questionnaire data must be treated with reservations for interviews often disclosed that affirmative answers indicated a recognition of a steady secular growth of receivables and payables rather than a short term change related to changes in monetary policy. Slightly less than half of the affirmative trade credit responses followed up turned out to be discoverably related to short run changes in credit conditions. Of the 80 largest firms, 8 granted longer terms to some of their customers in 1959 and 1960, while a further 11 firms suggested that during this and other periods of less available credit their customers took longer to pay their accounts despite attempts by the company to keep collections current. The following examples are typical:

The financial Vice President of a large primary metal producer estimated that his company's volume of overdue accounts increased by as much as 3% in value when interest rates rose more than $\frac{1}{4}\%$. The company does not approve of this increase and occasionally refuses to provide continued supply to slower paying customers.

The Vice President of an oil company reported that when banks are cutting their loans the corporation attempts to reduce trade credit. One device used is to tell the sales department that discounts on sales which normally are granted on 30 day terms, must be cut to 15 days. He reported that these efforts were not always successful.

Other large firms make no change in their credit arrangements and do not encounter significant additional pressure during periods of credit restraint.

The Vice President of a manufacturing company pointed out that their product is sold for cash with notes received from the dealers the day of delivery into their hands. Parts are sold on 15 days credit, with occasional payment lapses by customers. The credit department does not allow much freedom and tight money has not caused noticeable pressure.

The Treasurer of a pipeline company pointed out that accounts receivable do not vary with credit conditions with payments being received regularly.

A company producing alcoholic beverages reported that the company sells only to the 10 provincial liquor control boards, credit being granted on a 30 day basis.

Other large firms have responded to pressure for increased trade credit during periods of restraint. The following examples are typical:

A large retailer noted with some concern the large increase in time payment accounts in 1960; an increase unaccompanied by a commensurate increase in sales. This increase was attributed to the general tightness of credit in the economy.

A chemical company found that it was extending extra credit to customers in times of credit restriction, particularly to a large portion of its customers in the textile industry. Even though interest was charged, the average age of accounts receivable increased noticeably during periods of credit restraint.

A large metal manufacturing company indicated that severe competition in the industry made the question of policy in trade credit very difficult. Normally this company sells on terms of 30 days net, but as credit conditions tighten accounts receivable tend to lengthen. For example, in October, 1961 the average age of accounts receivable was 30-35 days compared to the average in October, 1962 of 46 days. The executive being interviewed attributed part of this lengthening to the overdraft restrictions implemented by the chartered banks in September of 1962.

A food manufacturer with 10,000 customers said that the average age of accounts receivable varied with credit conditions. In October, 1962 this company had a \$300,000 note with its bank attributable mainly to the stretching out of the days outstanding of accounts receivable from 40 to 44 days.

An electronics manufacturer indicated that on the retail side of their business the average age of accounts receivable tends to lengthen as credit conditions tighten with 30 day accounts averaging about 40-45 days. As credit conditions ease the normal terms prevail again.

A metal manufacturing company found that it has, of necessity, given more trade credit to some of its customers during periods of tight money. In most cases increased credit has not been explicitly granted; it has simply been a case of the customers being slow in making payments. It was noted that payments first became slower in 1956 and that outstanding receivables have remained large ever since.

In other cases large firms have experienced an increase in trade credit granted but this has been independent of changes in credit conditions.

The treasurer of a manufacturing company said that his firm considers that they have been "manoeuvred" into extending more trade credit than they should. They often have to match the credit terms offered by competitors if they are to keep their market share. Credit was being provided which should come from longer-term sources. One of the banks had suggested to this company and others that the competitive use of trade credit was depriving the banks of their rightful business.

Some executives of a metal manufacturing company said that their firm had become more lenient in dealing with its customers' credit requirements, but emphasized that this was because the market for their metal had become a buyer's market. Better terms must be given when there is excess capacity in the industry if the company is to maintain its share of the market. In 1959 there was a coincidence of tight credit conditions in Canada and excess capacity in the industry. There were credit demands by their customers but the amount of credit extended by the company was largely determined by the amount of excess capacity they had.

In an interview with the President, Treasurer and Comptroller of a general manufacturing company the President pointed out that the extension of trade credit had become a sales tool in the industry. This was a development which he deplored. The Treasurer was of the opinion that the amount of trade credit provided by the Company did vary with credit conditions, but thought these variations were small compared with the large secular increase which had taken place since credit had become a competitive weapon.

Many of the firms with assets between \$5 and \$90 million noticed their customers taking longer to pay their accounts. Some of these firms transmit-

ted the pressure to their suppliers by taking more trade credit; but on balance more than twice as many firms with assets \$5-\$90 million gave more trade credit to suppliers or customers than took additional credit by obtaining advances from customers or delaying payment to suppliers. For example, the raw uncorrected data from the mail survey shows 12.7% of responders giving more trade credit in 1962 while only 5.3% suggest that they took more in that year.

Among firms with assets under \$5 million, a considerably higher proportion either give or take more trade credit when interest rates rise and credit is less available. Moreover, the percentage has been rising in successive periods of restraint. Uncorrected mail survey data indicate that the number of firms giving more trade credit has risen from 10.2% in 1956 to 20.6% in 1962 while those reporting that they take more credit rose from 10.2% to 15.1%. As indicated above these percentages require substantial downward correction as less than half of the firms later interviewed related their changes to a tightening of credit. The following examples indicate how subsequent interviews altered the interpretation put upon answers to the mail survey.

The Secretary of a knitting mill reported on his company's questionnaire that the firm had restricted the granting of trade credit in 1962 as a result, in whole or in part, of changes in the availability or cost of funds. In the subsequent interview, it turned out that trade credit had been restricted by the Secretary from his arrival in February 1962.

The Treasurer of a food manufacturing company indicated in his firm's questionnaire that they had allowed some customers to have more credit than usual in 1959-60 and 1962. In the subsequent interview, he pointed out that trade credit was a relatively minor problem since 97% of the company's business was with supermarkets.

A mining corporation had reported an increase in trade credit granted during periods of restraint, but in the subsequent interview it turned out that 98% of the firm's output was exported and customers were unaffected by Canadian credit conditions.

A small wholesaler indicated that his company had restricted the granting of trade credit in 1962 in response to general credit conditions, but in the subsequent interview it turned out that many customers were put on a weekly payment basis in March 1962 when year-end figures showed accounts receivable to be high.

The following firms indicated that they had taken more trade credit and had either given no additional credit or had a mixed pattern of behaviour on the credit-granting side of the business.

A small manufacturing company reported that they often relied upon their suppliers for credit but more ingenious methods are used when the pressure on bank loans increases. In both 1959 and 1962 they restricted the granting of trade credit considerably, although their reductions were intended to reduce bad debts as much as anything else.

An importing company reported that in 1959 it got in touch with its English suppliers and extended payment terms from the usual 30 days on sight draft to 120 days. This lasted for about a year in 1954. The same happened in 1962, but by January 1963 the terms were back to normal. At the same time the company cut out some customers in order to keep accounts current. These were small retailers who made up about 1% of their customers. Some good customers were given help; 10-15% being given extended credit up to 120 days instead of the regular 15-day credit period.

A large processing company reported that when "the scramble for funds" developed in the fall of 1959, they approached their bankers for an increase in their line of credit. Due to a variety of circumstances, the bank would only allow an additional \$1 million. They then entered the commercial paper market where they received the balance of the funds required. At the same time, they took full advantage of the maximum terms offered by their suppliers. Previously, they had paid invoices weeks in advance of the due date.

The following firms, which were all interviewed, indicated that they gave more trade credit during periods of restraint, although they did not take additional credit.

A Firm manufacturing heating products find they have to take up the slack because of the trade financing of the small contractors who are their major customers. "Our furnace dealers have nothing. We scream more when credit gets tighter, but in many cases are forced to extend more credit in some cases in order to obtain the business. The overall effect on our accounts receivable is probably not dramatic." They pointed out that their customers were at a disadvantage in that they could only borrow on their accounts receivable as compared with manufacturers who can assign their inventories.

A manufacturer of consumer durables pointed out that about one-third of the company's output is handled by dealers. When credit conditions tighten, there is a definite tendency for the average

age of accounts to lengthen. They try to hold the line, but they are forced by competitors to grant additional credit. The company does not attempt to press their own suppliers; all bills are paid promptly and in time to benefit from any discounts offered.

A manufacturer of specialized building equipment pointed out that their accounts receivable tend to lengthen when credit conditions tighten, despite the company's efforts to establish some sort of "guaranteed payments arrangements". Their position in the field is such that they can and do threaten to withdraw their personnel from installation jobs if the customer falls too far behind in progress payments. In late 1962 the company's accounts were averaging 64 days compared with 52 days in late 1961.

A building materials company reported that their accounts in August, 1962 averaged 37.9 days compared with 34.7 days at the same date a year earlier. The increase in accounts receivable was financed through working capital and bank loans.

The information shown in Chart I indicates how trade credit extended in a particular industry responded to changes in credit conditions. The chart shows that for a substantial group of firms reporting regularly on their accounts receivable, from wholesaling of plumbing and heating equipment to contractors, retailers and industrial firms, there has been a sharp rise over the period 1955-1962. Superimposed on this upward trend in accounts receivable is a cyclical pattern quite closely related to changes in the treasury bill rate plotted on the chart. The accounts receivable data shows the average number of days sales outstanding for the reporting firms, adjusted to remove seasonal components and with random fluctuations smoothed out. The relationship between the treasury bill rate and the extension of trade credit by a selected group of wholesalers is clearer between 1955 and 1959 than thereafter. For the period 1960-1962, the reductions in the treasury bill rate are matched only by a slackening in the rate of increase in days sales outstanding, while the increase in treasury bill rates in 1962 is accompanied by an increase in the amount of trade credit extended. From the nature of the questionnaire and interview evidence, it appears that this pattern of trade credit experience of a group of wholesalers is not untypical of that of firms in several industries.

CHART 1

COMPARISON OF TREASURY BILL RATE AND TRADE RECEIVABLES OF PLUMBING AND HEATING WHOLESALERS



1. Source: The Canadian Institute of Plumbing and Heating

(d) Restricting Dividends

One way of conserving cash when funds are not easily forthcoming from the usual external sources is to keep dividend payments below what they would otherwise have been. 10% of firms under \$5 million, and 6% of those over, suggested that they restricted the payment of dividends during 1959-60. Interviews indicated, however, that in almost all of these cases the decisions taken on dividends were independent of the cost or availability of funds. The following examples are typical.

The Vice-President of a small manufacturing company indicated on the firm's questionnaire that the payment of dividends had been restricted in 1962 as a result of changes in the availability or cost of funds. In the subsequent interview, he pointed out that 1962 was the first year in which the company had net earnings for dividends and it was thought best to plough them back.

The President of an importing firm had indicated that the payment of dividends had been restricted in each of the periods of credit restraint. When interviewed, he indicated that no dividends had been paid since 1956 and there had thus been no change from periods of credit ease to periods of credit restraint.

The Secretary Treasurer of a hardware company had shown a restriction in the payment of dividends for 1962. In the subsequent interview, he pointed out that the 1962 dividend was skipped because earnings were low, and that there was no tie-in with general credit conditions.

Of the few firms which did reduce their dividends in part because of lessened availability of credit most were small, fairly closely held companies or wholly owned subsidiaries. The larger firms with widely traded stock often explained that they did not feel themselves free to reduce dividends except under exceptional circumstances and thus could not treat dividends as a variable which could be adjusted to current cash requirements. The following two examples indicate the nature of the decisions taken.

The President and Vice-President of a utility were interviewed and questioned on the positive answer they had given to the question on the restriction of dividends in 1959-60. They reported that the company's shortage of cash in 1959 led them to speed up the collection of receivables and also to postpone the declaration of a dividend increase.

The President of a foreign-controlled manufacturing company indicated a considerable measure of responsiveness to changes in credit conditions on his firm's questionnaire. The firm had borrowed abroad in 1957 and 1959 and had issued shares in early 1960 partly because of the thinness of the market for borrowing in early 1960. The preferred dividend was passed in May 1962 to ease their cash position and was subsequently paid at the end of the year.

(e) Commercial Paper Market

One of the most important financial changes in recent years has been the development of the commercial paper market. Statistics on the growth of this market are presented elsewhere in this volume and indicate the rate at which it has grown. Some firms have resorted to the issuance of commercial paper when funds have been difficult to obtain from usual sources, but the most frequently cited reason for entering the market has been the opportunity presented to borrow funds at rates significantly lower than bank lending rates. The following examples show how the commercial paper market has been used either as a substitute

for other sources of funds during periods of restraint or how connections with this market have been established in order to avoid difficulties in future periods of restraint.

A large food manufacturing company in the midst of a major expansion in 1959 found that a combination of higher than anticipated construction costs, involuntary inventory accumulation and a price war forced them to seek additional credit of \$5 million. Their banker would ordinarily have supplied the necessary funds, since the total amount needed was below previous borrowing. On this occasion, the bank, citing their own tight cash position as the reason, granted a loan of \$1 million instead of the \$5 million requested. The company then turned to the commercial paper market where they obtained the necessary funds without difficulty. This company has subsequently become a large lender in the commercial paper market.

An engineering contracting firm, normally a heavy bank borrower, entered the market in early 1962 to "take advantage of the lower interest rates." This action was taken despite active discouragement by their bank and they subsequently withdrew from the market in order to maintain good relations with their bank. In mid-1962, however, they returned to the market with the full consent of the bank and to date (Autumn 1962) have been borrowing at the rate of \$5-\$7 million in the commercial paper market.

A milling company entered the commercial paper market in 1959 and at present the company is authorized to borrow up to \$6 million in the market. Their borrowing in this market has varied between \$1 million and \$6 million at rates from 2¼% to 5¼%.

An integrated oil company, which in 1959-60 borrowed over \$1 million from a trust company at 6¼% due to bank tightness, subsequently became a borrower on the short-term paper market to avoid a repetition of earlier difficulties.

Other firms reduce their commercial paper borrowings and increase their bank borrowing when the spread narrows between rates for bank loans and short-term paper rates.

A textile company seeking to secure short-term funds at the least cost, entered the commercial paper market in mid-1960 and participated in this market until mid-1962 when the differential between the short-term market rate and the bank lending rate was no longer significant. They borrowed around \$3.5 million from May 1960 to the end of the year, around \$5 million in 1961, and \$1.5 million in early 1962. According to their calculations, the interest saving effected in 1961 was \$18,000.

A large retailer shifted from the short-term market to the banks during the tight money periods of 1956 and 1959. During these periods the rates in the short-term market rose sharply and the company turned to the banks for a large part of their financing.

A large manufacturing company reported that in times of relatively easy credit and low interest rates, as in the early 1950's, the company tended to issue its own commercial paper, finding this method about $1\frac{1}{2}\%$ cheaper than borrowing from the bank. Credit conditions such as those existing in August 1962 meant that rates on commercial paper similar to that issued by the company were only $\frac{1}{4}\%$ to $\frac{1}{2}\%$ lower than the bank borrowing rate. The company therefore tends to borrow from the bank and if in need of temporary finance under credit conditions like those of August 1962, would probably use the bank rather than the short term paper market. Even though the bank has on occasion suggested that the company free its line of bank credit, and even though the company wishes to avoid "embarrassing" the bank, the opinion was expressed that the company expected to find no difficulty in getting the necessary line of credit from the bank.

In some of the above examples, firms have clearly been anxious to maintain good relations with their banks when they make use of the short-term paper market. In some cases, this means that close calculations are not made of the savings which can be effected but fairly arbitrary divisions are made between bank borrowing and commercial paper borrowing.

A manufacturing company indicated that however attractive the rates in the short-term money market, the company always borrows 50 per cent of its short-term funds from the bank to reward the bank for maintaining a line of credit, which the company views almost as a condition of its paper being acceptable in the short-term market.

(f) Debt and Equity

One of the possible financial reactions to credit restraint listed on the questionnaire was the decision to issue share capital rather than bonds or other fixed interest obligations. This was included to take into account the fact that in part of the periods 1955-57 and 1958-59 the prices of equities were rising when the prices of bonds were falling. In these circumstances, corporations

might have found themselves able to issue equities when bond markets were relatively unattractive. In 1962 there was a major decline in the stock market just prior to the measures taken to increase interest rates and therefore both the stock and bonds markets were depressed during the same period.

In the case of corporations whose shares are not traded, the infusion of new equity capital by the owners provides an alternative source of funds during a period when external borrowing conditions are unfavourable.

In the event the questionnaire and interview evidence indicates that a relatively small fraction of both public and private corporations issued equities to avoid high interest rates in 1956, 1959 and 1962. Among the firms with over \$5 million in assets, $2\frac{1}{2}\%$ suggested that the issuance of equities in 1959-60 was related to the prevailing high interest rates, while $1\frac{1}{2}\%$ of the respondents in the small firm sample gave a similar response. When the positive responders were interviewed, it was found that very few cases could be found where a clear-cut decision had been taken to issue equities as a substitute for borrowed funds because of high interest rates. The following cases are at least partial exceptions.

The President of a medium-sized manufacturing firm pointed out that their decision to issue additional share capital in 1960 was influenced by the thinness of the market for borrowing in early 1960.

The President of a utility which had offered rights issues in each of the recent periods of tight money reported that it was more than a coincidence that the company had used this method of financing in the years during which conditions in the bond market were particularly difficult. The company has a general financing rule that funded debt should not provide more than 50% of total long-term financing. Their policy is to issue equity frequently enough so that in any given year the company's equity to debt ratio is large enough to allow them to adopt whichever kind of outside financing is more advantageous in that particular year.

The Treasurer of one large company reported that in 1958, when they had a need for substantial quantities of outside funds, they were faced with a bond market which did not seem receptive to their issues. They found that the market was thin and their needs were large. These two reasons, coupled with the bullish stock market at that time, induced them to make a rights issue. Since they anticipated

that the difficulties of raising new funds would not be less in 1959 than in 1958, they made the issue a large one. This helped to take care of their needs in 1959, but since they judged that funds were unavailable on feasible terms in 1959 they made some cuts in capital expenditure in that year.

Some firms which issued bonds in 1956-57 attempted to obtain lower rates by attaching conversion privileges, thus taking some advantage of the relatively more buoyant conditions in the equities market.

The Treasurer of a large primary processing firm noted that convertible debentures were relatively more advantageous than non-convertible debentures in periods of tight money. The high interest rates prevailing in 1956 were in part responsible for the issuance of convertible debentures rather than non-convertible fixed debt. He went on to say that when ordinary bond rates were as low as 4%, the company would not consider using convertible debentures as it did not wish to water down its equity more than necessary.

The choice between debt and equity was discussed with the financial officers of a number of equity-issuing corporations and their analysis of the determinants of this choice helps to provide an explanation of the relatively small degree of switching from bonds to equities as a source of funds when interest rates rise in the short run. The view commonly held was that equity finance was considerably more expensive than debt finance, but there was an unwillingness to issue debt beyond the extent dictated by their own standards of an appropriate debt-equity ratio or that suggested to them by their financial advisors.

The chief financial officer of a company which was redeeming preferred shares during the nineteen-fifties pointed out that they made a series of rights issues during that period in order to allow the equity to debt ratio to be maintained. He pointed out that even though the issuance of rights is considered to be a far more expensive source of finance than bonds, the company does not hesitate to issue them whenever more equity is required to balance the ratio. Since there is a limit to the size of a rights issue which can be made at any one time, the company will often make rights issues in the years immediately preceding the periods of heavy capital expenditures, so that over-heavy use will not have to be made of the bond market or capital market in the year that the big expenditures are incurred.

The President of two associated companies pointed out that these companies used the discounted cash flow technique for evaluating major projects, and added: "The D.C.F. method is applied on an after-tax basis and compared with the cost of capital. The cost of capital is based, for....., on a capital structure of 70% debt and 30% equity, and in....., on 60% debt and 40% equity. Debt is considered to be about 3%, on an after-tax basis, and a return on equity of 15% is deemed desirable. An allowance is made for non-return projects of about one and one-half percentage points. This gives a minimum rate of return of about 12% for..... is at the present time considering whether its minimum return should be slightly lower". In the interview it was pointed out that to date the rate of return within the company for which 12% was the goal, was 7%-8% on equity after tax.

The Treasurer of a company which had a rights issue in 1956 pointed out that their decision to obtain funds through the issue of equities rather than bonds was not taken because interest rates were too high but because an increase in the funded debt of the company at that time would have raised the debt-equity ratio above the level considered proper by the firm's management. The fact that a high proportion of this issue was taken by the firm's parent in the United States was considered to be a natural consequence of the high proportion of the firm's equity held by the parent rather than a recourse to foreign sources of funds during a period of tight money in Canada.

Other Financial Changes in Response to Credit Restraint

Borrowing abroad, the use of sale and leaseback financing, an expansion in trade credit, reductions in dividends, resort to the commercial paper market and the issue of equities rather than fixed interest obligations, are only some of the financial changes which have been made in response to credit restraint. The following examples indicate the nature of other changes in financial arrangements which have been made in response to tighter credit conditions.

"Unable to arrange satisfactory long-term financing at or near bank rates. Had to arrange 7-year debt (\$350,000 in 1962) with finance company at 10%". (Metal manufacturing)

"In 1960 we tried, unsuccessfully, to borrow \$200,000 from our bankers. We were eventually

able to raise that amount by the issue and sale of 7% First (Closed) Mortgage Sinking Fund Bonds," (Mining)

"Through an indication of some tightness by our Bankers in 1950, we sold all of our buildings and re-leased. Amount involved approximately \$1,000,000." (Automotive supplies)

"Obtained personal loans of \$35,000 in 1959 and 1960". (Shoe retailing chain)

"... the Trade has contracts awarded to it as much as 8 months in advance. Due to the current influx of school contracts the volume had taken a significant increase. The sudden decrease of available funds (1962) was felt in the area of:

- (a) Bank Financing—none available to finance increased receivables;
- (b) Customers—delayed payments causing an even greater burden on receivables.

The result is that funds are not available for acquisitions of significant capital assets. In addition, the strain is so severe that cash discounts could possibly be lost. The industry had too narrow a Profit Margin to forego cash discounts. No action can be taken to remedy the situation." (Contractor)

"Made personal and family funds available (1957, 1959, 1962)... Our bank credit is to the greatest extent used to finance our accounts receivable which in September of each year amount usually to over half a million dollars. In past five years the average terms taken by our retail customers have increased from 35 days to 55 days (our terms are net 30 days). This is either due to limitation of bank credit being given to our retail customers or due to their reduced liquidity. Our borrowing power must be reserved to take care of this situation. If we could borrow against our plant and machinery, which has an appraisal value of \$500,000 plus — say \$300,000 on a serial basis for 10 years at 1% over the bank rate without incurring excessive "underwriter" charges — much could be done." (Knit goods)

The Financial Response to Credit Ease

In the mail survey, firms were told that "In 1961 and early 1962 funds became more available and interest rates decreased in Canada". They were then asked: "Were these changes in the availability or cost of credit in whole or in part responsible for leading your firm to: (a) Change your sources of external finance? (b) Accelerate your capital expenditure programme? (c) Implement

new plans to purchase capital assets? Relatively few firms responded to this question in the mail survey and few cases were found among the firms interviewed which indicated a positive response to credit ease in this or other periods. The following examples of changes in financial arrangements in response to easier credit conditions in 1961-62 are drawn from the mail survey and the interviews.

"Through the use of short-term promissory notes, free funds of other industrial companies have been employed at advantageous interest rates in lieu of current bank borrowing." (Industrial materials)

"Borrowed more heavily from "street" at lower rates than from Bank." (Construction materials)

"More short-term money at less than bank rates." (Food)

"During the early part of 1962, when considerably more credit was available at a reasonable rate, we were able to undertake new short-term financing in the amount of \$3½ million at 6%. Because institutions had funds available at that time and it was possible to borrow at a reasonable rate of interest, we decided to proceed with a debenture issue for the purpose of financing the purchase of one of our manufacturing facilities which had previously been leased from our parent (U.K.) company. Approximately 60% of the total amount was used to finance this purchase, and the balance was applied in reduction of bank indebtedness." (Appliance manufacturer)

"Part of short term funds for our subsidiary were obtained from commercial paper market. Also in part prompted our subsidiary to obtain long-term funds to improve financial structure." (Machinery)

"Availed ourselves of short-term market." (Hardware)

"Larger use of bank credit." (Machinery)

"A Canadian bond issue was sold in spring 1962 to repay a U.S. bond issue made in 1957 and maturing in December 1962." (Power)

"Short term borrowing from chartered banks was decreased in favour of commercial paper." (Grain)

"To obtain portion of borrowing requirements in the short term money market previously obtained from our bankers." (Engineering)

"Partial change from Bank Demand Loans to short term commercial loans." (Appliance manufacturer)

"Bond issue December 1961 to consolidate capital and pay off existing indebtedness, \$15,000,000." (Milling company)

"Debentures were issued in the amount of \$5,500,000 to eliminate short term bank indebtedness, bank term loans and former debentures and to supply approximately \$1,500,000 additional funds." (Construction materials)

CONCLUDING COMMENT

This brief review of the financial responses of corporations to changes in credit conditions provides little more than an introduction to the

subject. The main purpose of the corporate survey was to isolate the effects of credit conditions on expenditure on goods and services, and the information gathered on financial reactions, although necessary and important, was a by-product of the process. Much work remains to be done in this area, and with new statistical data on the horizon, the use of a combination of research techniques should yield in the future a thorough treatment of issues which are merely touched upon in this chapter.

TABLE V-1
All Firms
Financial Effects - 1959-60

	Foreign Subsidiaries Under \$5 Million			Foreign Subsidiaries \$5-\$90 Million			Firms Under \$5 Million Not Classified as Foreign Subsidiaries			Firms \$5-\$90 Million Not Classified as Foreign Subsidiaries		
	A	I	V	A	I	V	A	I	V	A	I	V
Total Number of Firms Responding	112			275			533			311		
Total Number of Firms Interviewed	12			40			77			77		
(a) Changed Sources of Finance:												
(i) Went outside Canada for funds	5	3	0	18	10	3	6	4	0	8	3	3
(ii) Initiated or increased sale and leaseback financing	2	1	0	7	2	0	15	4	2	8	6	0
(iii) Issued share capital rather than bonds	0	0	0	4	1	1	9	5	2	10	4	1
(iv) Found new lenders	1	0	0	8	4	1	35	15	4	14	6	4
(v) Obtained more trade credit	3	3	2	13	7	4	67	23	4	17	8	5
(vi) Obtained advances from customers	1	1	0	2	1	0	25	12	1	4	2	1
(vii) Made other changes	1	1	0	4	2	0	20	8	1	7	4	2
(b) Increased Internal Flow of Cash Available for Expenditure:												
(i) Restricted trade credit to customers	6	1	0	9	5	3	63	19	3	17	10	5
(ii) Restricted payment of dividends	10	2	1	12	4	0	64	24	1	22	13	2
(c) Extended financial aid to other firms:												
(i) Allowed customers more credit than usual	20	7	3	43	17	13	74	26	11	39	23	16
(ii) Made extra advances to suppliers	1	1	0	3	1	1	17	3	2	7	3	2
(iii) Increased advances to subsidiary or associated companies	5	2	1	20	8	4	38	12	5	24	10	2
Some Financial Response	35	11	3	82	29	18	222	54	16	103	52	27

A = Number of firms giving a positive answer to the questionnaire.

I = Number of above firms subsequently interviewed.

V = Of the interviewed firms, the number whose answers were partially or wholly verified.

TABLE V-2
All Firms
Selected Financial Effects - 1956-57 and 1962

	Foreign Subsidiaries Under \$5 Million			Foreign Subsidiaries \$5-\$90 Million			Firms Under \$5 Million Not Classified as Foreign Subsidiaries			Firms \$5-\$90 Million Not Classified as Foreign Subsidiaries		
	A	I	V	A	I	V	A	I	V	A	I	V
Total Number of Firms Responding	112			275			523			311		
Total Number of Firms Interviewed	12			40			77			77		
Financial Effects - 1956:												
Went outside Canada for funds	4	2	0	16	8	6	2	0	0	12	4	3
Obtained more trade credit	5	4	1	11	5	2	59	23	6	14	7	3
Allowed customers more trade credit	12	5	1	32	11	7	57	21	6	35	22	15
Financial Effects - 1962:												
Went outside Canada for funds	5	1	0	14	5	1	8	2	0	10	3	2
Obtained more trade credit	6	3	2	11	5	3	92	31	6	19	10	2
Allowed customers more trade credit	26	8	4	48	20	12	105	25	9	48	26	17

A = Number of firms giving a positive answer to the questionnaire.

I = Number of above firms subsequently interviewed.

V = Of the interviewed firms, the number whose answers were partially or wholly verified.

CREDIT CONDITIONS AND CORPORATE EXPENDITURE ON PLANT AND EQUIPMENT

In the preceding chapter some indications have been given of the way in which the financial arrangements of corporations have responded to changes in the financial system. So many interesting questions arise in explaining the way in which financial institutions respond to the actions of the authorities and the way in which the financial arrangements of individuals, corporations and governments respond to changes in the financial system that it is easy to fall into the trap of believing that this is what monetary and debt policies are all about. Up to a point there is something in this view. To the extent that monetary and debt policies are directed towards altering the flow of capital across international borders and thus to affecting the exchange rate or the exchange reserves or both, the financial responses to changes in these policies are of prime importance. To the extent, however, that monetary and debt policies are used to exercise a direct effect on the level of expenditure on goods and services then the repercussions in the financial system and in the financial arrangements of individuals, corporations and governments are merely intermediate steps. The crucial step occurs on the borderline between the financial system and the "real" economic system where decisions on expenditure on goods and services are or are not affected by changes in financial conditions. There has often been a surprising lack of interest in this last crucial step among those concerned with monetary matters and casual judgments on this issue have been added to very close and careful analyses of the responsiveness of parts of the financial system to the actions of the authorities.

Anyone who attempts to disentangle the effects of credit conditions from all the other influences bearing on capital expenditure on plant and equipment can sympathize with those who have shied away from this question. There is a certain neatness and regularity in the way in which parts of the financial system respond to the actions of the authorities. Moreover, there is a constant and rapid feedback of information and the authorities by trial and error, or what is more reassuringly described as "successive approximation", may frequently be able to bring about the adjustments in credit conditions they seek. There is little neatness and regularity, however, on the border between the financial system and the "real" system. Fine adjustments of the financial system may not lead to any discernible response in the real system. Major changes in credit conditions do have effects on expenditure, but both the change in credit conditions and the resulting effects on expenditure are normally spread over a considerable period. In any one economic expansion there is generally only time for one major trial, and if that happens to be an error then monetary and debt policies as far as that expansion is concerned will have impeded rather than contributed to the achievement of the objectives of policy.

This suggests a certain bluntness and crudity in monetary and debt policies when viewed in terms of their effects on expenditure, and this is also a characteristic of the distribution of their impact among firms. There is strong evidence that the capital expenditures of many firms are unaffected directly by short run changes

Theory of Employment Interest and Money was as follows:

"... I define the marginal efficiency of capital as being equal to that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital asset during its life just equal to its supply price." (p. 135)

If S is defined as the supply price of the plant, equipment, associated working capital and other expenses of the project, the Q 's represent the gains to the company arising out of the investment and r is the rate of discount which equates the present value of the Q 's with S , then

$$S = \frac{Q_1}{(1+r)} + \frac{Q_2}{(1+r)^2} + \frac{Q_3}{(1+r)^3} + \dots + \frac{Q_n}{(1+r)^n}$$

If S , the current supply price of the capital asset is known and estimates are available for the Q 's, then it is possible to solve for r , the marginal efficiency of the capital asset.

If there is sufficient information available about the range of investment opportunities open to a firm, an investment demand schedule can be built up showing the increasing amount of investment a firm is prepared to make the lower the minimum rate of return it is prepared to accept. If the minimum rate of return is a high one, then the amount of capital investment the firm is prepared to make will be small. As the required rate of return falls, a larger investment programme becomes feasible; thus the investment demand schedule can be expected to be downward-sloping to the right.

What then is the likely shape of the supply curve of funds to firms? In Keynes' analysis the supply curve was taken to be a horizontal line with the intercept equal to the current rate of interest. The intersection of this supply curve and the investment demand schedule determined the level of investment. As Keynes put it:

"Now it is obvious that the actual rate of current investment will be pushed to the point where there is no longer any class of capital asset of which the marginal efficiency exceeds the current rate of interest. In other words, the rate of investment will be pushed to the point on the investment demand schedule where the marginal efficiency of capital in general is equal to the market rate of interest."

Keynes was well aware of some of the simplifications he was making, and qualifications to this way of describing both the investment demand schedule and the supply of funds can be found elsewhere in the *General Theory*. Over the years it has become widely recognized that many firms regard the supply of funds to them as increasing in cost as additional amounts are obtained. If the amount required is small, this can be provided from internally generated funds, and for a variety of reasons firms may regard these funds as relatively inexpensive. If a firm needs to finance externally, it may choose several sources and several types of borrowing instruments. For limited amounts it may be able to use bank finance or issue debt instruments, but if its external needs are heavy it may need to raise additional equity capital in order to maintain what it or its financial advisers consider to be an appropriate debt-equity ratio. It may find, therefore, that the more funds it needs to raise externally, the more it has to rely on relatively expensive sources. For many firms, the supply schedule of funds for investment is thus upward-sloping to the right.

After this brief digression on the way in which the demand and supply schedules of investment are derived, we can return to the central thread of the discussion. As pointed out above, a firm will be insensitive to changes in credit conditions, either because it fails to take into account increases in the general cost of funds, i.e. fails to shift the supply curve, or because its investment demand schedule is perfectly inelastic over the relevant range. We shall first discuss the reasons for insensitivity on the supply side and then discuss some of the evidence indicating the reasons for lack of responsiveness on the side of demand.

Insensitivity on the Supply Side

The simplest explanation for insensitivity to changes in the cost and availability of funds would be that such changes had passed unnoticed by many firms. The methods used in carrying out this survey were not well-designed to test this point, but the general impression we obtained is that reflected in the analysis of the previous chapter. Small and temporary changes in the

in credit conditions. These firms have had plans for the purchase of plant and equipment prepared prior to a period of credit restraint. They have made no changes in these plans and have carried them through to completion despite the change in credit conditions. In other cases the evidence is almost equally clear that capital expenditures have been altered by a change in credit conditions. Plans have been made, but a rise in interest rates or the inability to obtain funds on an acceptable basis has led to a curtailment in expenditure which can be identified as to amount and timing. In some other cases the position is much less clear. Changes in plans have occurred, but there have been many factors at work. General credit conditions have played some part in the decisions, but their exact importance is in doubt.

A detailed discussion of the distribution of the effects of monetary and debt policies on firms in particular industries, located in particular regions, of various size classes and different countries of ownership will be provided in the next chapter. In the present chapter we shall discuss the reasons for lack of response, provide some evidence of the changes in credit conditions which firms said would be necessary to elicit a response, indicate the nature of the positive responses to changes in credit conditions and describe the way in which the evidence was used to indicate the aggregate response in a particular period.

Insensitivity to Changes in Credit Conditions

The economists who took part in this survey at first found the insensitivity of many firms to changes in credit conditions puzzling and even exasperating. Many readers of this report will probably share this reaction. After all, we live under a price system and unless the units of that system respond to price changes, the system will not function. The price of funds is an important price and if an increase or decrease in this price fails to lead to changes in the decisions of corporations, the marginal adjustments one anticipates in the operation of a price system are not occurring. As we became more familiar with the way in which firms

reached decisions on capital investment, it became easier to understand why this kind of insensitivity existed and why a limited response was not inconsistent with other evidence on the way in which a price system operates.

The factors contributing to insensitivity to short-run changes in credit conditions (and these are the changes which were assessed in this survey) can perhaps be most easily illustrated by using an over-simplified framework within which the decision to carry out a capital expenditure is made to depend upon a balance between expected revenues and expected costs. This, in effect, converts the problem into a demand and supply problem, the investment demand schedule being constructed by adding together all the capital expenditures for a stated period which promise a rate of return equal to or higher than a particular rate, and the supply schedule representing the marginal cost of funds (for varying amounts) made available to the firm during the same stated period. Changes in credit conditions initiated or acquiesced in by the authorities are in the first instance designed to bring about a vertical shift in the supply schedule of funds. If this in fact occurs and the investment demand schedule is downward-sloping to the right, a reduction in capital investment will occur. If a reduction in investment does not take place, this must mean that either the firm does not make any adjustment in its estimate of the cost of funds or, if such a shift occurs, the investment demand schedule over the relevant range is perfectly inelastic. We have encountered many cases which can be classified in one or the other of these categories, but before reviewing this evidence some general observations are in order on the derivation of the demand and supply schedules relevant to investment decisions.

The investment demand schedule encountered in most discussions of the effects on investment of changes in interest rates and the availability of credit derives from Keynes' concept of the marginal efficiency of capital. This was an adaptation (and for some purposes a less adequate form) of a device which had been used by earlier economists in the analysis of investment. Keynes' definition of the concept in *The General*

direction of restraint may well pass unnoticed or attract little attention, but decisive changes, such as those of 1956-57, 1959-60 and 1962, do have an impact on corporate executives, particularly on the financial officers. It is less easy to offer evidence on movements in the direction of credit ease. As indicated earlier, the two periods of credit ease, 1957-58 and 1961-62, which fell within the period covered by the survey, were temporary and only partial reversals of previous periods of restraint and do not provide reliable guidance to the effects of changes which are more decisive.

If firms were aware of decisive shifts in the direction of restraint, why was there frequently an apparent disregard of these changes when firms considered their own cost of funds? One reason frequently given by firms was that they did not borrow externally. This, however, is a reason which was queried. Most the firms which were not borrowers were net lenders and if higher yields could be obtained from financial assets, this meant a rise in the opportunity cost of funds for expenditures on plant and equipment. It was found that while in some cases the relationship between the earnings which could be obtained from the firm's portfolio of financial assets and the anticipated returns on investment in plant and equipment played some part in decisions, the effects of credit conditions through this channel appeared to be very weak. Many executives stressed that they were running a producing company and not a financial institution. The following examples are typical:

In an interview with the Treasurer and Assistant Treasurer of a large utility there was some discussion as to whether the low return on invested capital (about 5%) would cause them to be more tempted than other firms to invest in financial assets during periods of high interest rates. The Treasurer was emphatic the company was a ----- and not a financial institution and that changes in the relative rates of return on plant and equipment and financial assets could not induce the company to defer capital expenditures in favour of purchasing financial assets.

The Vice-President Finance of a large primary processing firm wrote as follows: "Although the Company's capital expenditures for many years have been well below the internal generation of funds, it has never been a policy on the part of

the Company to keep capital expenditures within such a limit, since it is believed funds could be readily raised from outside sources if required. However, market rates of interest do not have any direct bearing upon the Company's capital programme. The Company appears to be one whose capital expenditure programme is generally designed independently of conditions existing in financial markets." This company has on occasion borrowed substantial amounts from its bank and from the market. It was suggested that if market rates of interest became very high indeed (in the neighbourhood of 9% or 10%) the opportunity cost of funds employed in financial markets would become close enough to the net return earned on assets employed in their primary operations that the company would seriously consider employing their funds in financial markets rather than undertaking certain projects.

Other firms were less explicit in discussing the relationship between the rate of return on plant and equipment and the rate on financial assets but clearly were of the view that their lack of reliance on the market for funds meant that changes in general credit conditions had no direct effect on them.

The Vice-President of a large Canadian subsidiary of an American firm pointed out that they had a good deal of autonomy in reaching decisions on capital expenditure. He suggested that that since the company had had no external debt since 1956 changes in credit conditions had not affected them. The Company's policy of paying only small dividends to its parent has left the firm with a flow of cash from internal sources large enough to finance all normal capital expenditure and permit loans to other enterprises. Individual divisions of the company are given a good deal of freedom in reaching decisions on capital expenditures under \$50,000 and heads of divisions are in part judged on the trend of profitability in their divisions. The cost of funds plays no part, however, in the profit calculations of individual divisions and changes in credit conditions are unlikely to have any effect other than through influencing sales. It was thought that there were some customers whose purchases of some goods were deferred during periods of tight credit, but he doubted whether such influences could be considered significant.

"All capital expenditures paid out of current or accumulated earnings, the cost or supply of external funds has not been a factor."

"We have sufficient capital to take care of any possible capital expenditures we have in mind so that we are not depending on outside financing."

The President of an oil company pointed out that the company's expenditure had never been affected by Canadian credit conditions. The firm obtains all of its funds by internal generation or by advances from the parent company. At the moment they are currently generating more cash than they require and it is being used to reduce the balance of the loan from the parent company.

A manufacturing and distributing company reported as follows: "The determining factor with regard to our company is the availability of funds to our U.S. Parent ----- Co. During the last 10 years our Parent Co. has had adequate funds and therefore as long as we could show a reasonable rate of return for the funds we requested, the cost of funds in Canada was of little consequence."

Many companies considered that the questionnaire was entirely irrelevant since they financed internally. The following examples are typical:

The comptroller of a manufacturing company indicated N.A. or nil to all questions on the response of the firm to credit restraint or credit ease and indicated in several places that the explanation of their answers was that their "financing is done from internally-generated funds."

The Treasurer of a manufacturing company pointed out that the cost of funds did not enter into his company's calculations because "we use mainly internally generated funds." Aside from major plant expansions it is company policy to spend only about one half of the annual depreciation allowance.

For firms which borrow externally there are a number of reasons why a change in the cost and availability of funds may have a much reduced impact on the relevant cost of funds to the firm. A good deal of the previous chapter was devoted to a discussion of the way in which the financial arrangements of firms are altered in response to a change in credit conditions, and it is evident that in many cases this is done to minimize the impact of general changes in interest rates and the availability of funds. A corporation which shifts its borrowing to the United States as a result of an increase in Canadian interest rates has partially insulated itself from the change. A similar dampening of the effects of monetary policy occurs when firms are successful in avoiding limitations on the availability of credit from one source by reliance on another. A company which cannot obtain

additional credit from a bank but succeeds in increasing the amount of trade credit it receives from its suppliers, can prevent the change in the availability of one type of credit from affecting its investment decisions. The evidence summarized in the previous chapter indicates some of the ways in which firms seek an escape route from limitations on the availability of credit from any one source of finance.

Even though firms finance externally, they may do so for only a part of the funds they require for a particular project. In most circumstances, firms finance their expenditures from a variety of sources, including retained earnings, equity issues and both long and short-term debt. Even if a change in interest rates does not cause the firm to alter the relative amounts of various types of funds used, a given change in the rate of interest on one type of security will not lead to the same proportional change in the weighted cost of funds. If account is taken of the firm's ability to alter its finance mix, a change in the cost of one type of funds will have an even smaller influence on the weighted costs of funds relevant for reaching a decision on a particular project.

Firms may limit the impact of monetary policy on the cost of their funds by shifting sources of finance and this impact may also be much reduced by the way in which firms time their borrowing. It has often been suggested that interest rates are not important in the assessment of short-lived projects, but can play a major role in the case of long-lived projects. If all investment projects were financed by selling bonds at the time the investment decision is made equal in amount to the cost of the project and equal in maturity to the life of the project, then a change in interest rates might be expected to have a greater impact on long-lived than on short-lived investments. But in general, long-lived projects are subject to a greater influence from changes in interest rates only to the extent that the timing, size and maturity of the firm's debt issues are tied to the characteristics of specific projects. A firm may have planned a long-lived project which is going to be put in place in the succeeding year or year and a half and may have decided to finance the whole project by long-

term borrowing of an equivalent amount. If there is then a sharp increase in long-term interest rates and the decision on the method of financing remains unchanged, the full impact of the increase in long-term interest rates is transmitted to the cost of funds relevant for reaching a decision on the project. This may not lead to a change in plans, but if there is insensitivity it is not due to a lack of response on the supply side.

Usually the situation is rather different than this. A firm may have planned to finance its investment programme at least in part by issuing long term bonds and may then be faced with a sharp increase in long-term interest rates. If the executives of the company believe this increase in long-term interest rates will be temporary they will tend to shift away from long-term financing with more reliance being placed on temporary accommodation. Thus instead of a shift in long-term interest rates leading to a rise in interest costs for the whole life of long-lived projects, in some cases it may only affect interest costs for a period of less than a year. In such cases the shift in the relevant cost of funds for evaluating projects is a very minor one. The following examples illustrate this point.

The Vice-President and Treasurer of a large primary processing firm pointed out that a change in the prevailing market rate of interest was less likely than a change of a similar size in most other expenses to cause a capital expenditure decision to be altered. This is because the interest cost which should be considered is that which will prevail throughout the lifetime of the asset in question, while the company considers that in the light of the way interest rates are presently used as a means of controlling the economy, current interest rates are unreliable indicators of the rates which will exist in the future. This uncertainty about the future level of interest rates is particularly noticeable in the long term; but it is only in the long term that interest rates have a noticeable effect on the rate of return which a project is anticipated to produce. Thus current changes in the market rate of interest are not considered to be of great importance in the making of capital expenditure decisions.

The Comptroller of a primary producing company pointed out that the rate of return which a capital expenditure is expected to produce has not been altered in their firm in response to changes in market rates of interest. This practice was ex-

plained in the following terms: "Any change which we can foresee (in interest rates) is going to be a short range change when compared to the life of the project." It was suggested that changes in interest rates had some effects on attitudes but the quantitative importance of this was described as usually negligible. It was also pointed out that "if rates changed (upwards) by 1%, and we expected them to change back, we would put off long-term borrowing and would finance capital expenditures by using short term funds."

We have analyzed some of the reasons why changes in market rates of interest may not have marked effects on the supply price of funds relevant for reaching investment decisions within many firms. We now turn to a consideration of some of the factors leading to insensitivity on the side of demand.

Insensitivity on the Demand Side

If the supply price of funds relevant for reaching decisions on investment projects rarely changed in response to changes in market rates of interest we could conclude that monetary policy has no direct effects on investment without knowing anything about the nature of the demand for investment. But this is far from being the case. Our survey showed clearly that there are many firms for whom at least the temporary costs of finance change when credit conditions change. For some firms, the implicit cost of new outside funds has from time to time become very high indeed because of limits on the quantities of funds available to them from the sources of finance of which they are aware. For other firms a rise in interest rates has meant at least a temporary increase in interest payments or a rise in the opportunity cost of funds invested in security portfolios. An analysis of the effects of credit conditions on the expenditures of these firms requires an examination of the elasticity of the schedule of the marginal efficiency of investment.

Our research confirmed some of the generalizations commonly made about the elasticity of investment demand and some reference will be made to these broad considerations in the succeeding section on uncertainty and insensitivity. Our work in addition suggested some additional points which have not been emphasized in the past. We are interested in knowing how sensitive

the volume of investment is to changes in the discount rate used (either explicitly or implicitly) in reaching decisions on proposed expenditures. Let us suppose, for example, that a change in credit conditions raises the discount rate appropriate for evaluating costs and revenues expected in the near future but does not affect expectations about the availability and cost of funds beyond a limited future period. Such a change would encourage the postponement of projects whose early cash requirements were high and whose expected return would not suffer from postponement. The projects which would not be postponed would be those whose rate of return would be seriously affected by delay.

Projects which fall into this class include those projects which are partially complete. In most of the firms studied, the postponement of the final outlays on a project which was almost completed would considerably affect the expected rate of return. On the mail questionnaire, firms were asked the following question: "If increases in the cost of external funds or restrictions on their availability have not led you to decrease your planned capital expenditures, is this because..." They were then provided with five alternatives, one of which was: "you were committed to expenditures programmes already under way". A number of firms in the 1221 who replied did not answer this question and many firms selected several of the alternatives. It is noteworthy, however, that 153 of them indicated that a commitment of expenditures programmes already under way had been a reason for the absence of an effect.

A second group of projects whose rates of return would be seriously affected by delay are projects required to meet current changes in competitive positions. These projects, sometimes referred to by officials as "must" projects, are required to make changes in the quality or amount of output to accommodate to a change in market requirements. The implicit rates of return on these projects are often thought to be so high (generally in terms of the profits which would be lost if the expenditures were not made) that firms do not make even a rough calculation of these rates.

A third group of projects are those which fall well within the investment capacity of the firm, the curtailment of which would lead to underutilization of the firm's engineering and coordinating staff. Officials in some firms suggested that the opportunity cost of a certain minimum level of outlays is quite low. Most firms hesitate to reduce their engineering and construction staff, since the process of building up such a staff is long and expensive. If the staff is on hand there is much to be said for keeping a reasonably steady flow of work going forward. Similarly, it may be difficult in the short run to bring about a major increase in investment outlays with existing engineering personnel and it may be difficult to find trained and experienced staff to operate the new facilities.

The elasticity of the investment demand of a particular firm will depend in part on the relative importance for that firm of the various types of projects described above. In many firms interviewed, officials emphasized the importance of the projects whose implicit rates of return are so sensitive to the passage of time that they could not be delayed. There was only one class of expenditures about which there was general agreement that there was some short-term flexibility. Many firms have some freedom to alter, at very slight cost, the amount of modernization and certain maintenance expenditures from one period to the next, but there were said to be limits on the number of years for which expenditures of this kind could be postponed.

It is perhaps worth emphasizing that some of the factors contributing to the short-run inelasticity of investment demand would not exercise a very significant influence over the long run. If credit conditions change and it is anticipated that this represents a new plateau or valley for interest rates which is likely to persist, firms have time for adjustment and are not in the position of having to consider the consequences of curtailing a project which is already under way. Similarly, over the long run firms can adjust the size of their engineering and coordinating staff and adjust to a much higher or much lower level of investment than they have had in the past.

Uncertainty and Sensitivity

There is an air of precision about the above discussion of investment which is frequently not to be found in the real world. Corporate executives in recent years have been exposed to a constant stream of advice urging the adoption of improved methods of appraising capital projects, and this had led to a burgeoning of formal calculations. This is a healthy development and much more will no doubt be done in this direction in the future. It remains true, however, that the quantitative data which go into such formal calculations are frequently subject to wide margins of error and this is recognized by those making investment decisions.

The President and Secretary-Treasurer of a large processing firm were interviewed and pointed out that the firm had used several methods to assess investment proposals and had come in the end to use "rough rules of thumb." In the application of all these methods, the project was charged with the current bank rate of interest for all periods where the cash flow was negative, and several different interest rates were used to discount the positive cash flows. In one method, the projects own rate of return was used (that which would equate revenues and costs), a second uses the average rate of return on the company's earnings assets, while a third uses the bank borrowing rate. All three methods have been tried, and the results have been found to be roughly equivalent. All three have been virtually abandoned, however, as "the methods were more sophisticated than the data"; the estimates of sales volume and prices being necessarily too uncertain "to justify the use of sophisticated procedures."

In many other cases, no formal calculations are made and executives rely on broad judgements to decide on the feasibility of particular projects. Since in either case decisions frequently tend to be made on a rather rough and ready basis, these decisions are insensitive to any change in circumstances which is not regarded as of major importance. A temporary and limited rise or fall in market interest rates or a change in the availability of credit which does not impinge directly on the firm is often regarded as a change of relatively minor importance.

While not all of this type of insensitivity arises from uncertainty, this is a major determinant. Some sentences in Keynes' General Theory convey the flavour of the problem con-

fronting those making decisions on capital projects.

"The outstanding fact is the extreme precariousness of the basis of knowledge on which our estimates of prospective yield have to be made. Our knowledge of the factors which will govern the yield of an investment some years hence is usually very slight and often negligible ... (p. 149). Most, probably of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as a result of animal spirits — of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative probabilities. Enterprise only pretends to itself to be mainly actuated by the statements in its own prospectus, however candid and sincere. Only a little more than an expedition to the South Pole, is it based on an exact calculation of benefits to come." (pp. 161–162).

This puts the point rather too strongly, but it is clear that in many industries both the costs and yields of projects are subject to wide variations depending upon circumstances. Faced with this uncertainty, corporate executives tend to protect themselves with arbitrarily determined safety margins which are wide enough to swallow up the effect of limited changes in credit conditions. The following example is typical of the way in which a firm which is prepared to adjust its financial arrangements accords little weight to change in credit conditions when assessing a capital project.

In an interview with the executives of a large mining corporation, several examples were given of the way in which the company had re-arranged its financial affairs in response to changes in Canadian credit conditions. On occasion they had borrowed from American and British banks and they had gone abroad with a bond issue when the Canadian market could not provide the funds they required. At no point, however, had a change in the cost of funds led them to postpone or abandon a project. The Vice-President and Treasurer described their insensitivity in the following terms: "If we were making tea cosies or table napkins, it might be a different matter, but if a deal we are contemplating would be affected by a 2% change in borrowing costs we would have no business contemplating it in the first place."

An essentially similar point was made by executives in firms which require a high rate of return from projects.

The Comptroller-Treasurer of a manufacturing company with an American parent pointed out that the firm seeks a return of 30% before taxes on its capital expenditure. The company does not include the cost of funds in its calculations since "the required return is so high that any conceivable change in the cost of funds would have no effect on the outcome."

The Vice-President Finance of a manufacturing and engineering company said they look for a 20% return before tax (charging interest and depreciation). He said that he would not want to say that interest rates were not an important factor, but they were secondary. A major change in the majority of cases would not prevent the making of a previously approved capital expenditure. He suggested that if rates moved within the range of $3\frac{1}{2}\%$ to $8\frac{1}{2}\%$, they were not likely to have a major impact.

This does not exhaust the topic of unresponsiveness to monetary policy, but enough has been said to indicate some of the factors which tend to blunt the cutting edge of the instrument. Indeed, after being exposed to this long catalogue, the reader is likely to ask what, if anything, will lead corporations such as those described above to respond to a change in monetary policy. We made an attempt to answer this question.

Hypothetical Changes in Monetary Policy Required to Secure a Response

Firms which had not reported any responsiveness in their capital expenditures to changes in the direction of restraint were asked the following question:

"If past increases in the cost of funds have not been great enough to decrease your planned capital expenditures, would you indicate below, if possible, how large an increase in the cost of funds would have to occur before the size or timing of your capital expenditures would be affected."

There was a sharp difference between this question and others which formed part of the questionnaire. Elsewhere we had restricted ourselves to questions which could be answered by direct reference to the experience of the executive. Here we were asking for an opinion on how circumstances would have to alter before a certain reaction would result.

We had many doubts about this hypothetical question at the early stages of our inquiry, and these doubts increased as we proceeded with our work. The more obvious it became that it was extremely difficult to obtain accurate information on events which had occurred, the clearer it became that limited weight should be accorded answers to a question about an event which had not occurred. This was recognized by the executives themselves. Many refused to answer the question while some who did answer warned that limited reliance should be placed upon their statements. The following examples indicate the nature of these replies.

"Impossible to determine — other factors might operate to offset the higher cost of funds."

"Not possible to indicate, as other factors would be involved. Each situation would be considered as it arose."

"This is a difficult question to answer as it would be directly affected by prevailing business conditions. In a good year we would be better prepared to assume a substantial interest expense than in a year of low profits."

"It is impossible to answer this question categorically... earning power of proposed projects is considered in relation to other criteria, such as degree of risk and alternative courses of action. To illustrate, a decision to construct a refinery might be influenced by pressing requirements for supply, or by a desire to conform with governmental wishes. Construction of service stations might be influenced by programmes of competitors. Cost of funds is only one of many aspects determining the size and timing of capital expenditures."

Many executives did provide answers which ranged all the way from assertions that any further increase in the cost of funds would cause a curtailment of expenditure, to statements that substantial changes would be required before the firm would be affected. The following examples indicate the range of the answers.

"Any increase above present maximum bank rates of 6% would undoubtedly result in postponement of some capital expenditures. During company's expansion in the past years, capital funds were required to purchase new equipment. It is anticipated that future capital funds will, to a large extent, be for replacement of old equipment. The cost of funds will consequently play a greater role in determining the pay-back period of replacement."

"Consider bank money at over 6% and mortgage money at over 7% will decrease construction work very seriously in Canada as it is now (1962) being felt through Bank of Canada restriction against loaning money on real estate."

"It was very close to the point where we would consider curtailing expenditures."

"Since our capital expenditures are based on absolute necessity or quick payoff, normally a very large increase in cost of funds would be necessary to affect them. At least a 50% increase from present high rates."

"To isolate the interest factor from the many other relevant factors involved in determining whether or not a capital expenditure should be made, is to place too much emphasis on this one factor as opposed to other factors to be considered at a particular time. Normal capital expenditures would not be affected unless the cost of external funds increased substantially."

"Generally speaking, the anticipated return on investment, related to proposed capital expenditures, is substantially higher than the actual cost of funds required. Therefore, the actual rate to be paid at any given time has very little direct effect on the decision as to whether or not to proceed. Theoretically, then, a large increase in the cost of funds would have to occur before it would be uneconomical to proceed with a capital expenditure. Because your paragraph refers to timing, however, it should be pointed out that a nominal increase will have an effect from a timing point of view because major capital expenditures are planned on a fairly long cycle, and it is possible to plan the acquisition of funds when the cost of funds are relatively low without interfering with the long-term expansion program. This is done either by borrowing temporarily on a short-term basis from a bank, or delaying the acquisition of capital equipment — or a mixture of both. This factor is considered only in relationship to long-term debt or share capital and not to short-term financing as from a bank. Changes in interest on bank loans have had no effect in our planning."

While many of the replies to this question were interesting and revealing, we are now of the view that these answers cannot be brought together and expected to provide reliable information on the likely effects of a widening of the range of variation of credit conditions.

We did find that this question provoked a good deal of useful discussion in the interviews. It came after an analysis had been made of the

way in which the corporation had in fact altered or not altered its behaviour as a consequence of past changes in credit conditions and frequently led to some general reflections on the reasons why the effects were as small as they had turned out to be. Sometimes the answers brought out considerations which the question was not designed to elicit. For example, the executives of a number of large international corporations carrying on business in Canada responded to this question by emphasizing the limited extent to which changes in *Canadian* credit conditions would affect their activities.

Several executives of a large metal producing company with holdings in many countries were asked what increases in the cost of funds during 1956–57 and 1959–60 would have been necessary in order to change the company's capital expenditures. They emphasized again what they had indicated earlier in the interview, that the company's sources of funds are so diverse and flexible that interest rate or credit availability changes in any one country, unless accompanied by parallel changes in several other countries, are unlikely to affect the company's operations.

The Vice-President Finance of a large subsidiary of an American company indicated that the parent would never allow them to get into such a tight financial position that funds were not available for desirable projects. He thus concluded that the company's capital expenditure program would never be conditioned to any great extent by conditions existing in the Canadian capital market.

The Vice-President Finance of a large international company indicated that even though the company follows a policy of financing its activities in the countries where operations are carried on, they are willing to change their pattern of borrowing if ever credit conditions become difficult in any one country. Thus monetary policy in any one country in which the company operates is not likely to affect either the total level of the company's expenditures or the expenditures they make in a particular country.

Other reactions from executives being interviewed were of considerable interest.

The Vice-President Finance of a large metal producing company began by warning the interviewers of the speculative nature of his answer and suggested that long-term interest rates between 5% and 6% were considered by the company to be part of the normal course of events, while a rise in interest rates much above 6% would

probably lead the company to revise rather carefully any plans involving outside borrowing at that rate. He noted that perhaps the most significant part of his answer to the question was the fact that he had never explicitly considered before what reactions there would be within the company to sharp increases in interest rates to levels much above those existing at the present time.

The Vice-President Finance of a large utility pointed out that in their view monetary conditions were considered to have a considerable effect on the total demand for goods and services. Thus, while a number of factors contributed to relative insensitivity on the part of this firm to short-run changes in credit conditions, they felt that major changes extending over longer periods would, through effects on the economy, influence their investment. As they put it: "It does seem to us, however, that monetary conditions have considerable effects on the total demand for goods and service. If this is so, an easier monetary climate in the period since 1956 would have resulted in a more active period of economic growth. If post-1956 growth had matched that in the pre-1956 period, there is little doubt in our mind that the ----- company would have been compelled to make appreciably greater outlays for construction purposes."

The Vice-President of a large manufacturing company with many years of experience in Canadian industry summarized his views on the effects of monetary policy in the following terms: High interest rates and restrictions upon availability of credit are seldom, if ever, capable of having direct effects on the expansion plans of large, well fixed corporations. Their flow of internally generated funds is usually great enough, and the number of available sources of external funds large enough so that finance can always be obtained for a profitable project. Small firms, on the other hand, particularly those in secondary industries, may be forced to cut their expansion plans because of credit restrictions. If the credit restrictions force cut-backs in the plans of enough of these small firms, there will be a resultant change in the demand for the product of the large firms, assuming that the large firms produce for the domestic market. It is only in this indirect way that monetary policy impinges upon the actions of Canada's largest primary producers. He later remarked that in his opinion interest rates higher than 7% (beyond the normal range of experience) would lead his company to keep capital expenditures within the limits dictated by the generation of cash from internal sources.

'Positive Responses to Changes in Credit Conditions

The evidence we have collected relating to the effects of changes in credit conditions since 1955 is consistent with the general view that a change in credit conditions has to be substantial before it affects a large proportion of the capital expenditures of corporations. At any one time, however, there are some corporations whose capital expenditure and financing plans are such that a short-run change in credit conditions of the kind which we have experienced since 1955 may cause a change in the amount of capital expenditure undertaken. Of the 1221 firms surveyed by mail, 13.5% indicated that they had postponed or abandoned capital expenditures in one or more of the periods of credit restraint 1956-57, 1959-60, or 1962, as a result of increases in interest rates and restrictions on the availability of funds. The number indicating effects in any one period was substantially smaller, being 4.8% in 1956-57, 8.0% in 1959-60 and 9.8% in 1962.¹ When these positive answers were later queried in interviews, it turned out that from two-thirds to three-quarters of the postponements or abandonments reported for any one year were not attributable to changes in general credit conditions. The following examples are typical.

The President of an electrical equipment firm indicated on the company's mail questionnaire the postponement of \$35,000 worth of machinery and equipment. In the subsequent interview he pointed out that this had resulted from a shortage of capital arising from the withdrawal of funds by two U.S. parents and was in no way connected with changes in credit conditions.

The Secretary-Treasurer of a slaughter house reported on his company's questionnaire that the firm had postponed the building of a rendering plant costing \$220,000 as a result of credit restraint in 1962. A cooler building costing \$150,000 was listed as having been abandoned for the same reason. In the subsequent interview he pointed out that the rendering plant was postponed because the company did not want to borrow any more at a time when the major expenditures in the cooler

¹ Interviews disclosed that one of the main reasons why the proportion of firms affected appears to rise in more recent periods of credit restraint is that the officials interviewed often have access only to information about investment plans in recent years.

building were being made. In fact, the cooler plant was built in 1962, and the rendering plant postponed because the company wished to rely on internally generated funds. Conditions in financial markets were not a factor.

A dealer selling foreign automobiles reported a postponement of a building extension of \$30,000 in 1962. In subsequent questioning he pointed out that the capital project mentioned in the questionnaire was not affected by the cost of money but by the devaluation of the Canadian dollar, which changed the gross margin of operations.

The Treasurer of a small printing firm reported an abandonment of plans for the purchase of an \$8,000 printing machine as a result of changes in the availability or cost of credit in 1962. In the subsequent interview it was discovered that the plan fell through in early 1962 before credit restrictions were imposed. There was a choice between investing surplus cash in securities or buying the new machine.

The President of a printing company had indicated a postponement of machinery installation in 1962 to the amount of \$220,000. This was shown on the original questionnaire as attributable to changes in interest rates or the availability of funds. In the subsequent interview it was indicated that the company had arranged firm financing and was thus unaffected by credit conditions. They had, however, been influenced by devaluation and the import surcharges. The effect was explained as follows: "Whereas equipment purchases were made from the U.S. in 1961 in the amount of \$100,000 at a 3% discount, further equipment plans in the amount of \$250,000 were postponed because of the devaluation of the Canadian dollar in June, 1962, and increased import duties. Above would have increased our cost by:

Difference in dollar exchange ..	11%
Increased duty ..	<u>5%</u>
	16%

Above everything else, the feeling of economic uncertainty even more than the availability of funds or increased costs made us postpone plans for further growth."

In the case of some firms which had indicated a positive response in their capital expenditure programs to changes in credit conditions, subsequent interviews provided a partial verification of their answers.

The President of a small metal working company indicated the postponement of expansion estimated to cost \$200-\$300,000. The Industrial Development Bank and a chartered bank were both ap-

proached and were favourable. Sales declined, however, and the outlook for the construction industry looked poorer. The project was shelved. The company supplies primarily for industrial construction and the poor present and prospective sales led to the deferral. The President added that if what they say in the papers is true, that construction is affected by tight credit, then tight money was a factor.

A general contracting firm reported a development project postponed in 1962. In the subsequent interview, it turned out that the postponement resulted from an inability to obtain the necessary financing but that this had occurred in February 1962, and therefore preceded the change in credit conditions in June. In mid-1962 there were no projects reaching the final discussion stage in part because the company knew that funds would not be available.

The general manager of a small manufacturing company reported a postponement of capital expenditures during each of the three periods of restraint. In subsequent questioning it turned out that he had not been considering expansion in the earlier periods and so actual expenditures were not postponed. In 1959 the company was just starting to grow and capital was not in immediately short supply. In 1962 he would have liked to start manufacturing a new item and the principal deterrent was lack of capital. The expenditure required was perhaps \$25-\$35,000. Much of the effect of restriction was on his own thinking, which he said was definitely affected by the current tightness in the early part of the summer. As a result, he did not apply for an I.D.B. loan, thinking his chances of getting it to be too small and being conditioned by the prevailing mood to the extent of having doubts about the project itself. In the judgement of the interviewer, the project can be classified as one postponed in 1962, although it is not certain that it would have gone forward if credit had not been tightened.

The interviews of a third group of firms, numbering in total slightly less than one-third of those giving affirmative answers, indicated that these firms had in fact postponed or abandoned expenditure in roughly the amounts implied in the questionnaire answers, and that these changes in plans had been brought about by changes in credit conditions. The following are examples drawn from this group of firms, and others will be found classified by industry in Chapter VII.

A manufacturing firm reported that a decision was taken in mid-1954 to plan the construction of more

modern production facilities on a new site. The project, which took about two years to plan, was estimated to cost \$5 million. Coincident with the drawing up of plans, the management explored the possibility of raising the necessary funds. They were assured by members of the Board from the financial community that no difficulties would be encountered. In May, 1956 a Board meeting was held ostensibly to give final approval to the borrowing of funds and the commencement of construction. This meeting broke up without any final decision being taken when the Board members from the financial community announced that in view of the "clamp down on credit" they felt the company could not raise \$5 million. The project was postponed and never revived in the same form. The management expressed the view that this decision "has adversely affected our growth pattern to this date."

A textile company reported that it depends to a large extent on bank financing for the capital projects which it undertakes to "keep abreast of technological change." In 1956-57 and 1959-60, this company postponed for about eighteen months some \$250,000 of capital expenditure. The President of the company described their policy in the following terms: "We endeavour to spend as much as possible on replacing equipment and at times when credit is restricted our programme is decreased. In other words, when credit is restricted, we cannot modernize as quickly as we desire. In our own situation, we therefore put the limitation of credit first and cost of credit second."

The Treasurer of a large retailing firm reported that his company abandoned a \$150,000 project when the bank froze its line of credit in August 1959. He pointed out that the company, being unable to obtain funds, took the necessary steps to postpone construction and when they were later able to obtain credit the opportunity to undertake the project had been lost.

A textile company which is heavily dependent on bank borrowing for both working capital and long-term funds, reported that it seldom "considers a major capital expenditure which our bank feels inadvisable." During periods of credit restraint the company has been "discouraged" from making capital outlays. In 1959 they would have spent an additional \$250,000 had the bank been willing to advance the funds.

A manufacturing company with a long history of successful operation and conservative management was required until recently to support another less profitable division of its parent company. The drain on their internally generated funds strained their previously "excellent" relation

with the bank upon which they had traditionally been dependent for any extra funds needed for capital expenditure. Inability to obtain sufficient bank credit in spite of a switch in banks led to the postponement of some \$250,000 of capital expenditure for warehousing in 1960 and again in 1961. In the fall of 1961 the company's relations with the bank improved when the losing divisions was closed out. When the company approached their bank in July, 1962 for the funds to construct the previously postponed warehouses, they were told that a further delay would be necessary "in view of the current austerity programme."

A shipping company proposing to start construction of an \$8 million vessel arranged early in 1962 to borrow \$4-\$4½ million from their bank to cover that part of the construction costs which the company anticipated would not be available from internal sources. Before construction began in the summer of 1962 with scheduled completion in 1963, the internal generation of funds fell off sharply and credit conditions tightened. The company, after reviewing the situation, decided to proceed by seeking additional temporary accommodation from their bank. They were informed orally by their bank that not only were no additional funds available but that the original authorization was withdrawn. This project was then postponed until the spring or summer of 1963. Two clothing firms which were visited had not as yet tried to obtain additional accommodation at their banks in the summer of 1962 but thought it likely that they would be refused. One firm (under \$1 million) was and is still contemplating a move to a new plant involving an expenditure of the order of \$50,000, but is partly inhibited from making the move because of its expectation that the bank will fail to provide the finance. The second firm (\$1-\$5 million) which manufactures clothing and also operates retail outlets, stated that the company would only undertake one of the two \$1,000,000 projects currently being examined because they feel sure that they would be turned down by the bank even though the company has previously borrowed even larger amounts when credit conditions were easier.

The President of a small metal making firm reported the postponement of investment in plant and equipment in 1962. In the subsequent returns, he pointed out that they started this expansion in May 1962, to be financed by the existing line of credit. He reported that in June the bank cut this line of credit and the expansion was stopped except for the equipment which was already ordered. They resumed the project in November, although their financing was still uncertain.

A paper manufacturing company, hampered for several years by a shortage of productive capacity,

postponed in 1959 a proposed \$8 million outlay for a new paper machine. This decision was based on the sharp rise in interest rates in that year which made the cost prohibitive in relation to the anticipated pay-back period and the desired 10% net return on investment. The company sought an alternative solution to its problem during the period of easier credit conditions in the latter part of 1960 and 1961. The failure to secure a satisfactory solution led the company to consider reviving their earlier proposal. In the fall of 1962 the project is being postponed from one monthly board meeting to the next because of the "price of money." The directors are concerned over the anticipated cost of borrowing \$4-5 million, feeling that "6½% is too high." The Treasurer stated that "if rates were to fall to, say, 5% we would be encouraged to start construction immediately."

The directors of a firm manufacturing construction materials decided in June 1962 to postpone for at least a year a 14-18 month expansion programme estimated to cost \$6-\$8 million. This decision was attributed to several factors: the rise in interest rates; the fall in the level of equity prices; and the unsettled outlook in the construction industry. In the interview, the Secretary of the company tended to place major emphasis on the economic prospects of the industry.

It is frequently suggested that it is restrictions on the availability of credit rather than increases in interest rates which affects expenditure. Our evidence suggests that this certainly tends to be the case among the smaller firms but that the relative importance of restrictions on availability diminishes with size. Almost three-quarters of the verified 1959 postponements for firms with assets under \$5 million could be attributed to restrictions on bank lines of credit. Among firms with assets \$5-\$90 million, about half of the postponements were due to the unavailability of bank loans and considerably less than half to the rise in interest rates. The largest firms with assets over \$90 million usually have access to funds from a variety of sources and are thus not significantly affected by the availability of credit from any one source.

As in the case of credit restraint, interviews often showed that credit ease in 1961-62 did not have the importance that positive mail questionnaire answers seemed to indicate. It was particularly common for the mail survey answers to the questions dealing with the effects on capital

expenditure of credit restraint and credit ease to stand or fall together. The cases in which credit ease was reported and verified to have played a role in spending decisions were almost all related to the availability of bank credit. The following are typical of the verified responses to credit ease.

"...the availability of a loan from I.D. Bank allowed us to pay our suppliers, who had helped keep us going for several years, and purchase the new equipment needed. We borrowed \$18,000, paid suppliers about \$8,000, paid balance of old mortgage \$1,000, and bought equipment brought forward two years for about \$9,000."

A textile company reported additions to equipment and the establishment of a new product as a result of easier credit conditions in 1961 and early 1962. In the subsequent interview, the President suggested that the availability of credit did not provide the impetus for new projects to be undertaken but was merely a necessary condition for such expenditures to be made.

The Secretary-Treasurer of a construction company indicated on the firm's mail questionnaire that changes in the availability and cost of credit in 1961 and early 1962 were in whole or in part responsible for leading his firm to implement new plans to purchase capital assets, in this case to spend \$500,000 on development land. In the subsequent interview, he confirmed that easier credit conditions had induced the company to enter into a contract to purchase a piece of land for approximately \$500,000. To date (September, 1962), payments of approximately \$70,000 had been paid, while no construction expenditure had been made. The company's idea was to build \$5-\$6 million worth of buildings on the site, leasing them for long periods to industrial firms. In September, 1962, credit conditions were such that the company is keeping up its payments on the land without commencing construction activity.

Estimating the Effects of Monetary Policy

In view of our sense of the inadequacy of the information on which we have had to base our estimates of the effects of monetary and debt policies, it would be convenient if we could treat these estimates as merely an incidental by-product of our study. This is not, however, the way in which we approached this survey, nor is it our present view that such estimates are of limited importance. The careful reader of the Submission of the Bank of Canada will find in it many of the generalizations on corporate financial adjustments

and capital expenditure changes which have emerged from our inquiry. There is, it is true, a lack of concreteness on these matters in the Bank's Submission, and the reader is not left with a vivid impression of the way in which the system responds. From our point of view, however, the principal deficiency in the Bank's analysis of the effects of credit conditions, and for that matter the principal deficiency of most treatments of this topic, is the absence of any serious attempt to attach orders of magnitude to the effects being analyzed. Such orders of magnitude need not be precise in order to be helpful. But if those who express judgments on the effectiveness of monetary policy fail to indicate what they consider to be a reasonable quantitative test of effectiveness, and fail to show the extent to which they think that this test has been met, the debate on these matters tends to be sterile.

It was the desire to avoid this kind of sterility which led to the attempt to draw together the effects of credit conditions on all parts of the economy for the period 1958–60. The selection of this period rather than any other was dictated by circumstances. The 1955–57 boom was becoming too remote for reliable information to be obtained, and the brief period of restraint in 1962 was not only an unusual one but came after some of the evidence for the estimates had already been collected. While the period 1958–60 has some deficiencies, it was characterised by a vigorous use of both monetary and debt policies used in tandem with a flexible exchange rate. If the effects were quite limited, therefore, it was not because these instruments had not been used.

Given the very small proportion of firms affected, it was to be expected that our estimates of the effects of changes in credit conditions in 1958–60 would necessarily be based on a limited number of cases. This is not a source of embarrassment as far as firms with assets over \$90 million are concerned. Here we carried out what amounted to a census and estimated that capital expenditures by firms of this size in the peak three-quarters of the 1959–60 expansion were \$20–25 million lower than they would have been had credit conditions not changed significantly during the period. This suggests a greater degree

of precision than is perhaps justified, and it is worth emphasizing that if one very large firm had not been affected in a major way, this estimate would have been much smaller. It should be added that the 1962 experience indicates that while most large firms are unaffected, there will be scattered exceptions, some of which are in absolute terms fairly significant.

Our estimate of the effects of monetary and debt policies in 1959–60 on the capital expenditures of non-financial corporations under \$90 million in assets and unincorporated enterprises (other than agriculture), is \$30–40 million. This too suggests a greater degree of precision than is perhaps justified in view of the extent to which we had to rely on samples and indirect evidence for judgments on the effects on smaller corporations and unincorporated enterprises. It will be recalled that an attempt was made to reach all firms with \$5–90 million in assets. Given the high response rate to the mail questionnaire and the number of interviews carried out with firms which did or did not reply to the questionnaire, our coverage of this group was fairly adequate.

In the case of firms with assets under \$5 million and unincorporated businesses, we were dealing either with small samples or relying on indirect evidence. In either case we were left with the uneasy feeling that judgments had to be made of the effects on many firms on the basis of very limited evidence. In the case of corporations, this was particularly true of firms with assets under \$250,000 where our sample was very small. Some comfort can, however, be derived from the fact that the total capital expenditures of these corporations are sufficiently small to make even a major change in the judgments reached lead to a relatively minor effect on the estimates as a whole. The capital expenditures of unincorporated businesses, other than farms, were discussed in a series of interviews with bank managers, equipment manufacturers and other suppliers of credit to sole proprietors and partnerships.

In addition to the estimates covering non-financial corporations and unincorporated businesses, we collected evidence on the effects on sectors of the economy not covered in other Com-

mission studies. The capital expenditures of farmers were discussed with farm credit specialists in banks, farm machinery firms and provincial governments in the major farming areas, with officials of the Farm Credit Corporation, and the administrators of the Farm Improvement Loan Act. In addition, there were several responses from incorporated farms included in the sample survey and discussions were held with officials of many corporations carrying on business with farmers. Sales of farm equipment financed by the machinery companies did not appear to be much affected by changes in credit conditions. The evidence on the results of changes in the availability of Farm Improvement Loans is somewhat more mixed. Although most bankers interviewed were of the view that the availability of Farm Improvement Loans did not alter with changes in credit conditions, we found evidence that some expenditures on plant expansion and inventories were postponed because of the effects which actual or anticipated reductions in Farm Improvement Loan approvals during late 1959 and early 1960 were expected to have on the demand by farmers for buildings, machinery and equipment. In the event the demand for farm equipment remained stronger than was anticipated by the firms which postponed capital expenditures, and the postponed expenditures were eventually carried out in 1960.

The capital expenditures in the Finance, Insurance and Real Estate industries comprise outlays by firms in these industries on premises for their own use as well as facilities which are subsequently leased to other firms. Interviews were held with officers of property development firms, banks and insurance companies, and secondary evidence obtained from other firms involved as prospective tenants in property development. There were several cases found in which the timing of construction of shopping centres, apartments and office building developments were affected by changes in credit conditions. The evidence obtained from the general managers of chartered banks indicated little response to changes in credit conditions in decisions taken on the establishment of new branches or in the renovation of existing premises.

Capital expenditures on hospitals were analyzed by means of correspondence and conversation with senior health officials in the provincial and federal governments. There was no evidence found that any hospital construction had been postponed in 1959-60 because of the change in credit conditions, although there possibly was some alteration in spending because of credit restraint in 1962.

The remaining types of expenditure included in gross business fixed capital formation including universities, private schools and churches were not examined in detail. The scattered evidence we gathered indicated that there was little likelihood that changes in credit conditions had had significant effects on these types of capital outlays.

In a study of this kind, one is never satisfied that enough has been done to provide adequate coverage of spending decisions. Our experience in conducting the survey, however, suggests to us that coverage is not the main difficulty affecting the accuracy of our results. As we proceeded with our work, whether in the analysis of the largest spenders, where our coverage was virtually complete, or in those areas where our samples were small or our evidence rather scattered, we rarely encountered situations in which an additional block of interviews or further indirect evidence substantially altered the picture which was emerging. While, therefore, we would have welcomed an opportunity to push further in particular areas, and would not have been unprepared to find evidence which led to some revision of our conclusions, our experience at several stages of the inquiry did not suggest that our results would have been altered in a major way by a further extension of the survey.

If our conclusions are wrong, it is more likely that the error arises from the method we used to attack the problem and the way in which the method was applied. We have our doubts about both. Under ideal conditions, when clear records are available on what was planned prior to a period of a change in credit conditions and where it can be shown that these plans were carried through or altered in a particular way as a direct result of the change in credit conditions, then one is tempt-

ed to say that this method is as precise, if not more precise, than any alternative. Frequently, however, the conditions are not ideal. Precise information may not be available within the firm, or time and resources are inadequate to permit an analysis in depth to obtain precise information. When this is the case, one is left in doubt as to whether an accurate assessment has been made

of all the direct effects on corporations. Given sufficient resources, time and care, some of these difficulties could be overcome, but some are inherent in this method of obtaining information. The results summarized above should, therefore, be viewed as an invitation for further work in determining the effects of monetary and debt policies on the economy.

THE DISTRIBUTION OF THE EFFECTS OF MONETARY POLICY

The evidence summarized in the previous chapter suggests that the effects on capital expenditure of short-run changes in credit conditions over the range we have experienced in the last decade in Canada have in the aggregate been quite limited. It might appear, therefore, that the question of how these effects are distributed is a matter of limited importance. After all, those who have been most concerned with the fact that monetary and debt policies are highly discriminatory in their effects have generally held that these instruments are quite powerful and therefore capable of doing great harm to particular size classes of firms or particular sectors of the economy. Our previous analysis suggests, however, that unless the effects we have found are highly concentrated in particular industries, or size classes of firms, or firms with particular types of ownership or located in a particular region of the country, it is unlikely that a strong case can be made that particular groups have been seriously injured by short run changes in credit conditions.

This is in fact the general conclusion we shall reach, but it is nevertheless of considerable interest to see how the effects are distributed. The differences detected by this type of analysis contribute to a fuller understanding of the way in which credit conditions impinge on the economy. Moreover, circumstances might permit a more vigorous use of monetary and debt policies in the future. If, for example, the range of variation of credit conditions in the United States widened substantially, Canadian monetary and debt policies might have to be used with greater vigour than in the past. If this were the case, it would be important to know what dif-

ferential effects could be anticipated. We shall begin with a review of inter-industry differences, followed by an analysis of the effects on firms of different sizes, ownership and regional location.

(1) Inter-Industry Differences in the Effects of Monetary Policy

Table VII-1 shows the breakdown of questionnaire responses by industries and the industrial groupings will be considered briefly in the order in which they appear in the table.

(a) Food and Beverages

In the aggregate, and by size classes, the effects of changes in credit conditions on firms in this industry appear to have been marginally less than in other industries. The firms in this industry do not have any characteristic pattern of finance, and if they are differentiated at all from other industries, the distinction lies in the fact that their output goes mostly to the domestic consumption market. The relative stability of the consumer demand for food and beverage products was reflected in the fewness of capital expenditure postponements traceable to demand effects.

Officials of a large food firm were asked whether there was any possible relationship between changes in credit conditions and the sales of their products. "We are not selling refrigerators you know" replied an official; "even in the most depressed areas our sales remain very stable."

One food producing firm which did postpone a project because of anticipated demand shifts was largely influenced by management's involvement in real estate development.

TABLE VII-1
ALL FIRMS RESPONDING TO THE MAIL SURVEY

Analysis by Industry

	Total Number of Firms Replying																												
	Food		Wood Products		Textiles		Mining Metals		Other Mfg.		Petroleum		Electric Power		Telephones		Oil & Gas distribution		Transportation & other utilities		Commercial Services		Construction		Trade		Total		
	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	
Total Number of Firms Interviewed	93	18	86	13	77	20	211	31	291	61	55	8	15	4	6	2	18	0	56	8	47	2	88	12	196	27	1221	206	
	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	
	3	2	0	3	1	1	8	6	1	11	9	2	10	8	1	3	2	1	0	0	0	1	0	2	2	0	5	1	0
Postponed or Abandoned Capital Expenditures:	1956-57	6	3	1	9	4	2	11	8	4	19	14	2	17	16	7	2	1	0	0	1	0	5	4	0	1	0	3	1
	1959-60	9	7	2	9	6	3	11	7	1	21	14	2	22	14	3	3	2	1	1	1	0	0	0	0	4	3	1	7
	1962	12	9	3	13	7	5	15	9	5	30	20	5	30	21	9	4	3	2	3	3	1	0	0	1	0	7	6	1
Reduced Inventories:	Any Year	3	2	1	10	3	2	10	5	1	18	8	1	24	11	5	2	1	0	0	0	1	1	1	0	1	1	0	1
	1956-57	10	5	1	16	5	2	18	7	1	27	15	0	39	19	6	3	1	0	1	1	1	1	0	3	3	1	2	0
	1959-60	14	8	4	14	5	3	15	8	2	25	14	1	52	22	7	5	2	0	0	0	1	1	1	0	0	4	3	1
Total Number of Firms Interviewed	1962	17	10	4	19	6	3	21	8	2	34	18	1	58	30	9	5	2	0	1	1	1	1	1	0	4	3	1	2
	Any Year	3	2	0	3	1	1	8	6	1	11	9	2	10	8	1	3	2	1	0	0	0	1	0	2	2	0	5	1
	1956-57	6	3	1	9	4	2	11	8	4	19	14	2	17	16	7	2	1	0	0	1	0	5	4	0	1	0	3	1
Total Number of Firms Interviewed	1959-60	9	7	2	9	6	3	11	7	1	21	14	2	22	14	3	3	2	1	1	1	0	0	0	0	4	3	1	7
	1962	12	9	3	13	7	5	15	9	5	30	20	5	30	21	9	4	3	2	3	3	1	0	0	1	0	7	6	1
	Any Year	3	2	1	10	3	2	10	5	1	18	8	1	24	11	5	2	1	0	0	0	1	1	1	0	1	1	0	1
Total Number of Firms Interviewed	1956-57	10	5	1	16	5	2	18	7	1	27	15	0	39	19	6	3	1	0	1	1	1	1	0	3	3	1	2	0
	1959-60	14	8	4	14	5	3	15	8	2	25	14	1	52	22	7	5	2	0	0	0	1	1	1	0	0	4	3	1
	1962	17	10	4	19	6	3	21	8	2	34	18	1	58	30	9	5	2	0	1	1	1	1	1	0	4	3	1	2
Total Number of Firms Interviewed	Any Year	3	2	0	3	1	1	8	6	1	11	9	2	10	8	1	3	2	1	0	0	0	1	0	2	2	0	5	1
	1956-57	6	3	1	9	4	2	11	8	4	19	14	2	17	16	7	2	1	0	0	1	0	5	4	0	1	0	3	1
	1959-60	9	7	2	9	6	3	11	7	1	21	14	2	22	14	3	3	2	1	1	1	0	0	0	0	4	3	1	7
Total Number of Firms Interviewed	1962	12	9	3	13	7	5	15	9	5	30	20	5	30	21	9	4	3	2	3	3	1	0	0	1	0	7	6	1
	Any Year	3	2	1	10	3	2	10	5	1	18	8	1	24	11	5	2	1	0	0	0	1	1	1	0	1	1	0	1
	1956-57	10	5	1	16	5	2	18	7	1	27	15	0	39	19	6	3	1	0	1	1	1	1	0	3	3	1	2	0
Total Number of Firms Interviewed	1959-60	14	8	4	14	5	3	15	8	2	25	14	1	52	22	7	5	2	0	0	0	1	1	1	0	0	4	3	1
	1962	17	10	4	19	6	3	21	8	2	34	18	1	58	30	9	5	2	0	1	1	1	1	1	0	4	3	1	2
	Any Year	3	2	0	3	1	1	8	6	1	11	9	2	10	8	1	3	2	1	0	0	0	1	0	2	2	0	5	1

A = Number of firms giving a positive answer to the questionnaire.

I = Number of above firms subsequently interviewed.

V = Of the interviewed firms, the number whose answers were partially or wholly verified.

The company cancelled a substantial expansion and modernization plan in the spring of 1962, substituting renovation expenditures one-quarter as large. The firm could have obtained funds on its own lines of credit to go ahead with the expansion, but chose not to do so because they thought that the restrictive measures of June 1962 would have a substantial effect upon the general level of economic activity. By the end of 1962, the executives had discovered that the effects of the credit conditions on their sales had not been as great as anticipated, and concluded at that time they would have been better off had they gone ahead with the expansion as originally planned.

(b) Forestry, and Wood and Paper Products

The overall survey figures for this industry show an average degree of responsiveness, but the averaging process obscures the significant differences between the insensitivity of the larger pulp and paper and integrated forest product firms with large cash flows and the much greater responsiveness of the smaller sawmills and logging operators with limited sources of finance. Even among the smaller firms there is a distinction to be drawn between those which sell all their output to one large firm (and are largely financed by their major customer) and those which are entirely independent, relying primarily upon credit from banks and equipment suppliers. The Commission's sample of firms in this industry (100 in all) was not large enough for these distinctions to be statistically significant among the firms directly surveyed, but interview evidence tended to confirm the tendencies indicated by the questionnaire answers. There was not one of the nine forest industry firms with assets above \$90 million, four of whom are controlled abroad, whose questionnaire indicated any capital expenditure postponement for 1959-60, while the only affirmative answer to question 1(e) from the thirty-four firms between \$5-90 million was the following:

A forest products firm reported in its questionnaire answers a postponement of capital expenditure of \$1.25 million in 1962. This led to a follow-up interview. Part of the postponement of expenditure represented an expansion in one of the finishing plants. This was a large project and was first brought forward towards the end of 1961. Given the relatively high level of the company's bank loan at the time, and the fact that the company had only recently doubled its capacity in this

line, it was decided to defer the project for six months. In July 1962 the project was considered once again, and was once again deferred, primarily for the reason mentioned above, but also because of increases in interest rates and the general tightening of credit conditions. The official questioned was "not sure" whether the expansion would have taken place in 1962 had credit conditions not become less stringent, but he was sure that more restrictive credit conditions had "put the cap on it". This company also postponed an outlay of \$300,000 for the purchase of new trucks, track loaders and truck loaders in mid-1962 and credit conditions were said to be a factor. A third item of expenditure postponed was \$150,000 for maintenance, repairs and modernization of the company's logging camp, an item of a type which can be postponed relatively easily whenever the company feels the need to trim its capital expenditure programme. It was pointed out that it had been the coincidence of a very large capital expenditure programme with restrictive monetary conditions which had led credit conditions to be in part responsible for the postponement of significant expenditures. During periods of more normal rates of expansion, the company would be less likely to consider changes in credit conditions as a major factor conditioning capital expenditures. Even in the present circumstances the company feels confident that their bank would be willing to provide financing for an extended capital expenditure programme.

(c) Textile Industry

63% of the surveyed firms in the textile industry have had outstanding bank loans, as compared to 47% of all other firms surveyed. These loans are primarily intended for the finance of inventory, as the textile industry's share of bank term loans is far less than their share of all other types of bank loan. It is therefore not surprising that the proportion of textile firms stating that they reduced inventories in 1959-60 because of the change in credit conditions was significantly greater than the corresponding proportion of firms of similar size in other industries. Changes in capital expenditures were not greater in the textile industry than in others, primarily because the relatively slow growth and declining profits in the industry have not led to large capital expenditures even in times of relatively easy credit. The poor profits in this industry have placed many firms in this industry in the position of being unable at any time to obtain the capital they require.

"A project of approximately \$3,000,000 is ready to be implemented which has been deferred several years until it could be financed through internal sources and available bank credit. At the time (1959) borrowing by way of bonds and debentures was too costly and issue of share capital was not attractive in view of the depressed state of the industry. This project involves the rehabilitation of a yam mill. In view of the fact that our industry is generally known to be a low-return business, anything that increases the cost of capital projects is critical."

Thus several of the firms alleging postponements in 1959-60 were found on interview to have been equally unable to extend their borrowings during periods of generally easier credit. Since so many of the firms in this industry are operating continually at the limit of their authorized lines of bank credit, the bank manager's opinion becomes a more important element in capital expenditure and inventory decisions.

One company has no long-term debts, but carries an average bank overdraft of \$3-4 million, an amount two-thirds as great as the total owner's equity in the company. The firm maintains a close and friendly relationship with their bank and seldom undertakes major capital expenditures which the bank feels to be inadvisable. Thus, during periods of credit restriction, the company has been discouraged from making new capital expenditures, while the company's line of credit has been extended during periods of credit ease. The president suggested that in 1959 the company might have spent as much as \$¼ million or more on new equipment had the bank been more able to provide increased credit.

The implication was clear in this case and in others like it that the availability of bank credit has an important bearing on capital expenditures in this industry, even though the volume of term loans to textile firms is relatively small.

(d) Mining, Smelting, Metal and Mineral Products

The response of this industry group is close to average, and the chief characteristic of its firms' financial structure, as revealed by the questionnaire, is that significantly fewer firms in this group have used bank credit, bonds, or term loans during the survey period. The chief reason for this is the inclusion of a considerable

number of mining firms, many of whom use share capital and retained earnings as their only sources of finance. Many of these firms are so removed from the capital market that the Commission's questionnaire seemed quite irrelevant.

"Our company represents an old established gold mine and has not required financing for many years and capital expenditures have been financed out of current earnings. Therefore we have not been affected directly by any changes in the banks' financial policies."

"Our company is a mining, holding and exploration company and in recent years has been financed entirely from its own cash assets and the income return on its principal holdings. Therefore, our type of company would not be applicable for your survey purposes."

"Considerable thought has been given to the form and the conclusion developed that it would not apply in our particular case. At present our Canadian plant is not operating as a producing unit but devoting its energies to the development of a mining property. While this has involved an expense of approximately \$30 million, it has not been dependent upon nor particularly influenced by the cost or availability of Canadian funds. Financing for this development work has been obtained from our profits or credit from our United States operations."

Some of these firms were unconcerned because their cash flows from successful claims were adequate to finance whatever new projects could be found (this was particularly true of the larger companies).

"Actually as the enclosed balance sheet shows, the company has had sufficient funds to finance large capital projects without resorting to raising additional capital."

Many of the firms stated that their operations were not financed with borrowed funds.

"The Company's activities have not been directly influenced by the availability and cost of credit. The expenditures have been financed from the proceeds of share issues. For these reasons a good many of the questions on the form did not appear to be applicable to our operations."

Other firms, while pointing out that equity issues were their principal source of external funds, drew attention to the relationship they observed between credit conditions and the ease of selling shares.

"Sale of shares, our principal source of financing, is adversely affected by credit restriction in direct proportion to the severity thereof. Therefore our expenditures were decreased in the years of restriction stated in this questionnaire, to a far greater amount than the actual postponed programme contemplated and set out herein."

The industry group as a whole contains large integrated mining and smelting firms, and firms of all sizes manufacturing metal and mineral products. Thus it is that the financial structure and nature of response of the purely mining ventures are obscured in the totals of questionnaire answers.

(e) Other Manufacturing

The firms in this group submitted questionnaire responses as varied as the competitive situations in which they operate. Since no clear industrial pattern emerges from the answers, no discussion is necessary on the basis of an industrial breakdown.

(f) Petroleum

Capital expenditures in this industry are large, centralized and mainly made by foreign-owned companies. Of the \$385 million spent in 1959, over two thirds was spent by firms with assets over \$90 million, and about 90% by firms controlled outside Canada. The major spenders are the large integrated oil companies, whose capital expenditures have in general not been affected by credit conditions in Canada. Situations have apparently arisen, however, when relatively unattractive conditions in Canadian financial markets have combined with declining sales expectations to cause some restrictions to be put on capital expenditures.

An integrated oil company wishing to stretch out the use of funds obtained in 1958 and avoid additional borrowing in 1959 because "funds were not available on feasible terms", reduced its capital expenditure programme in 1958 and 1959. The precise amounts involved were not made available but apparently some 10% was cut off planned expenditures on exploration and development and some 20% off the service station construction programme. This amounted to around \$5 million.

Another integrated oil company suggested that the tightening of financial conditions in 1959-60 and in mid-1962 led the company to restrict their capital expenditures to those which could be

financed by internal funds or moderate increases in accounts payable to their parent company. Specific projects were not cut but upper limits were set on the amounts which various departments were authorized to spend for capital purposes. It was suggested that if domestic credit conditions had been easier perhaps an additional \$2 million would have been added to the 1959 capital budget but this was described as a questionable estimate.

A third integrated oil company indicated that the experience of 1959-60 had led the company to cut capital expenditures at the first sign of economic difficulties which might require a tightening of credit conditions. In 1962 capital expenditure programme of \$4.6 million drawn up in the fall of 1961 proceeded more or less regularly until February 1962 when the Treasurer "felt that things were not going too well" and instructed those responsible for capital expenditures to "go slow". In May the capital budget was reduced largely from a downward revision in the service station construction programme. The exploration department budget was also reduced by more than 10%. The size of the total cut was \$2.6 million. The Treasurer has also indicated to each division the total amount of funds likely to be available for capital expenditures in 1963.

In most of the instances the companies had relatively low cost alternative sources of funds in other countries, so that it is difficult to establish with certainty the importance of Canadian credit conditions to the decisions which were made. Other major companies have switched their sources of finance when credit conditions tightened in Canada, without making any changes in their capital expenditures.

A large producing firm found that bank tightness in 1959 had forced them to arrange a large short-term credit with a U.S. bank prior to making a market issue in the United States. Despite the strength of these financial pressures, officials could not recollect any changes in the capital expenditure programme.

The smaller firms in the industry are primarily engaged in exploration and production, relying to a limited extent on bond issues and chartered bank production loans, but principally on equity issues and retained earnings, often collaborating with several other firms in the development of new wells or fields. Some of these firms have found credit conditions to be of some importance in their decisions.

One medium-sized producing firm has found that their purchases of reserves and producing properties have from time to time been affected by the availability of bank credit. They suggested in a letter accompanying their questionnaire that restrictions on the length of time for which the banks were prepared to extend production loans were at least partly responsible for the firm's occasional financing difficulties.

In the fall of 1959 a medium-sized producing firm had to go to a New York insurance company for funds to finance a \$3 million development drilling programme. The only security which they could provide was oil and gas property, and they found that this was not adequate for Canadian banks and insurance companies in the latter half of 1959.

Another producing firm reported in its questionnaire that "The shortage of bank money since mid-1962 made it necessary for us to go outside Canada to obtain funds for short-term financing of certain oil properties which we normally finance by production loans in Canada."

Some of the firms in the oil industry have insulated their spending plans from financial pressures in Canada by raising funds in advance of needs.

"Since incorporation of the company in 1952, we have endeavoured to arrange financing at times when money was available at reasonable rates rather than for specific projects. This philosophy has been adopted mainly because of the nature of our industry when large amounts are needed immediately after major discoveries, which makes it extremely difficult to forecast the extent of capital expenditures in any given year. We have not yet been in the position of having to borrow or complete development at any time other than the time we have been able to choose with due regard to availability and cost of borrowed money."

Because of the high degree of foreign ownership in the industry, it is far more common for the smaller firms to be insulated from Canadian financial markets by dint of using only funds obtained from parent companies in the United States.

One oil company reported that it "operates in Canada as a branch office with credit and financing requirements met as needed by advances from our home office."

"The changes in availability of funds and interest rates in Canada do not affect our planned capital expenditures or financing policies. corporation is a U.S.A. corporation and conducts

petroleum producing and exploration operations in Canada through a branch. It is not involved in borrowing funds from Canada."

"We do not borrow. Any requirement for funds in excess of cash generated by operations is met by interest-free advances from parent company."

"For a number of years we have been investing in Canada for the purpose of exploring for and developing crude reserves. On balance, our capital expenditure has exceeded the revenues from sale of oil and the deficiency has been made up by converting U.S. dollars into Canadian dollars. Since interest rates in the U.S. have been lower than in Canada, it has been more advantageous to borrow in the U.S. when funds had to be obtained through this medium. However, if a reversal in the interest rate relationship should occur, we would give serious consideration to borrowing in Canada." This company went on to add: "Changes in interest rates have not had a material influence on our investment decisions in Canada. We are much more concerned with the long-range outlook in regard to the maintenance of sound fiscal policies which will assure orderly economic growth, equitable taxation, stable exchange rates, freedom from exchange controls, and other conditions that are conducive to the initiation of substantial capital investments."

In the aggregate, the direct expenditure effects of changes in credit conditions on expenditures in this industry have been affected slightly less than those in other industries in terms either of the number of firms affected or the volume of postponed investment.

(g) Utilities

There are two important ways in which regulated utilities typically differ from other corporations in ways relevant to the effects of credit conditions:

- (1) Public utilities make heavy capital expenditures on long-lasting assets financed in large measure by new issues of securities.
- (2) Public utility revenues are regulated so as not to exceed an approved return on a certain body of assets or on net equity.

Utilities in 1959 accounted for \$1.5 billion (or 38%) of the \$4 billion of capital expenditure covered by the survey.

The survey evidence indicates that capital expenditures by utilities have been more frequently affected by changes in credit conditions

than those of similar-sized firms in other industries. The extent of changes in capital expenditures in late 1959 and early 1960 by firms with over \$90 million in assets is comprised more than 90% by postponements by utilities. This to some extent is due to the large size and heavy capital expenditures by utilities in 1959, as more than \$1.2 billion of the \$1.5 billion of capital expenditure by utilities in 1959 was made by corporations with assets over \$90 million. Even on a firm-for-firm basis, however, utilities have shown themselves to be more often affected. On the other hand, the capital expenditures made by utilities are so large that the total value of postponed and abandoned projects is a smaller fraction of the planned capital expenditures of utilities than is the value of postponements by all other firms as a fraction of their capital expenditure.

Within the utility area, the number of firms is so small that it is difficult to know whether

inter-industry differences of response are due to intrinsic differences between the various utility industries or to the financial or management characteristics of certain firms. The two utility industries which evidenced a slightly greater degree of responsiveness were the electric power and telephone industries whether responsiveness is measured in terms of the number of firms affected or the value of projects postponed. These industries are among the most capital intensive of utilities (having high ratios of fixed assets to sales) although the differences among the various utilities are relatively minor. It does not appear that the electric power and telephone industries are much more reliant upon regular external borrowing than are the other utilities, although utilities as a group are much more dependent upon new debt and equity issues than are other industries.

The capital expenditures made by public utilities in 1959 are shown in Table VII-1.

TABLE VII - 2
1959 Capital Expenditures

	Expenditures by privately owned utilities (millions)	Expenditures by government owned utilities (millions)	Total (millions)
Electric Power	162.0	350.6	512.6
Railways	135.6	214.2	349.8
Telephone	275.3	45.5	320.8
Oil and Gas Pipelines and Gas Distribution	124.7		124.7
Air transport	7.8	61.2	69.0
Motor transport, Water Transport and Services, Warehousing, Broad- casting and grain elevators	139.7		139.7
	845.1	671.5	1516.6

Expenditures on toll bridges and highways, municipal transit, water and gas systems, federal broadcasting and telegraphs and certain other

unsurveyed government expenditures have been removed and the ownership is as at December, 1961.

ture in 1959 with railways combined with air, motor and water transport in order to avoid revealing the identity of the firms.

Electric Power

The basic determinant of capital expendi-

tures in most utility industries, and that mentioned most frequently by officials interviewed, is the need to provide the service demanded

The utility industries will be examined in order of the size of their total capital expendi-

within the company's service area. Particularly in the case of electric power, decision makers are of one mind about the nature of the imperative which governs their capital expenditures.

One utility president commenced the interview by emphasizing the utility's basic purpose — to supply power in whatever quantities are demanded — noting that this basic service requirement, when considered in conjunction with the high cost of carrying unused facilities, explained why there was very little flexibility in the utility's capital expenditure programme.

"The timing of our capital expenditures does not hinge on the suitability of the expected return, nor on the cost or availability of money. We are obligated to provide additional facilities as the demand for power arises."

"Being a public utility, irrespective of the conditions of the money market, we have no choice but to meet customers' demand."

Although there is no doubt about the unanimity of power utility officials in their analysis of the general determination of their capital expenditures, there were some slight differences of view about the extent to which marginal adjustments could be made to a spending programme.

One official suggested that the following types of expenditure might in some cases be postponed without affecting the generating capacity of the system: (1) line replacement, (2) expenditures on the communications system linking up the various parts of the power company's service area, (3) improvements to concrete dams, (4) expenditures on new transmission towers and substations. He suggested that from 4% — 6% of the company's current capital budget was for items of this type which could be postponed without affecting in the short run the company's ability to provide a given amount of power.

Given a large programme of capital expenditures, requiring fairly heavy borrowing, and fundamentally determined in size by a service demand which must be met, how are these expenditures affected by short-run changes in credit conditions? There are two important and distinct ways in which effects may come about. On the one hand, changes in interest rates may alter the economic balance between different methods of producing the same power output.

On the other hand, unattractive conditions in financial markets, as evidenced by low bond or equity prices and high interest rates on short-term funds, may lead a utility to postpone the issuance of long term securities, and possibly to postpone capital expenditures as well.

(i) Interest rates and the techniques of power production

Interest rates are an important element in the comparison of alternative power projects, since interest is such an important element of the total operating and carrying cost of generation and transmission facilities, and since there are often alternative methods involving significantly different amounts of capital. There are, however, very definite limits to the importance of interest rates in these decisions. Officials in most electric utilities stated that in the light of the requirements of a balanced generation system and the orderly development of the most favourable power sources, there seldom, if ever, arose situations where a change of 2% in the interest cost factor would alter the balance between thermal and hydro power generation. The same was largely true of decisions regarding transmission facilities, although interviews disclosed some cases where interest rates had played a part:

The construction of a high voltage transmission line was compared with the cost of providing temporary power by diesel generation. Using a 6% rate for comparison, the carrying costs on the capital value of the transmission line were greater than the costs of operating the diesel generators, and the construction of the line was therefore postponed. Had a lower rate been used for comparison, the transmission line would have seemed more advantageous, and might well have been constructed. This example was presented as an exception to the general rule that changes in interest rates over normal ranges have not been responsible for changing the capital intensity of the utility's operations.

The considerations of system balance and availability of new sites primarily affect the possible extent of longer run changes in the ratio of capital to output. There is another limitation, perhaps more important in the short run, which was described in an interview:

The executives suggested that perhaps the most important restriction on the use of monetary policy to affect the choice between thermal and hydro power generation is the extremely long lag between decisions to build hydro projects and the actual expenditures on construction. This long lag has a double effect. On the one hand, it forces the management to base its choice between thermal and hydro on their anticipations about the interest rates which will exist at the time borrowing is necessary to finance construction rather than on the interest rate existing in the market at the present time. On the other hand, once the decision has been made to build, there is very little freedom to alter the amount of capital expenditures which must be made in any one year: thus a change in interest during the construction period will change the total cost of the project without changing the size or timing of the capital outlay made. (Construction lead times were estimated at 3 years for thermal projects and as much as 8 years for hydro projects).

The long lags between expenditure decisions and the related borrowings were described by executives in several other utilities as the reason why arbitrary or seldom varied rates are used when various projects are compared.

A hydro utility uses a 5% interest rate when assessing projects, having some years ago decided that they were unable to predict interest rates five years in the future.

The survey evidence indicated that a change in interest rates did play an important role in at least one choice between hydro and thermal power generation since 1954, but the weight of the total evidence suggests that the nature of the projects and the related decision-making procedures is such that short-run changes in interest rates are very seldom likely to have similar effects.

(ii) Changes in capital expenditures related to conditions in financial markets

The major effects of changes in credit conditions on utility expenditures have taken place because of decisions to avoid additional borrowing under prevailing market conditions. Since the aim of such measures is usually to keep long-term borrowing to a minimum while awaiting more propitious market conditions, they usually involve a package of financial and capital expenditure changes.

The treasurer of a utility noted that the credit shake-up of August 1959 led to an economy drive within the company. Reserve fund investments were liquidated in order to make necessary capital expenditures, and a large amount of postponable items were deferred to subsequent years.

A utility official interviewed in mid-July 1962 noted that a planned expenditure of \$300,000 for the construction of a branch office had just been postponed pending the easing of conditions in the capital market. In addition to trimming its capital budgets in times of financial stringency, the utility also tends to draw heavily on its line of bank credit while waiting for an auspicious time to launch a bond issue.

Facing increasing interest rates in the late spring of 1962, another utility cut the size of a planned bond issue by 25%, covering most of the difference by short-term borrowing, but also postponing a capital expenditure programme and deferring an extension of trade credit. The net reduction of capital expenditures in 1962 was approximately \$350,000.

The reason for the avoidance of borrowing and related postponement of expenditure was usually related to the anticipation that interest rates were likely to go down within a fairly short space of time. In some cases the decision to trim expenditures in order to reduce cash requirements was made by the management of the utility, while in the case of publicly owned utilities the measures were often initiated by government officials anxious to keep total provincial borrowings as low as possible. Several electric utilities expressed a willingness to borrow at current market rates whenever funds were required, being of the view that borrowing costs would tend to average out over time, and that the regulatory authority would consider their borrowing costs when setting power rates.

Telephones

The chief difference between the telephone industry and other capital intensive utilities is that there appears to be more freedom in the scheduling of the capital expenditures which must be made to provide a certain level of service. This is because "the product of the telephone industry has more than one dimension, and these dimensions are to some extent

substitutable for each other."¹ When the volume of telephone calls increases, or the demand for the installation of new stations grows, a telephone company can choose one of a number of methods of meeting these increased demands. Some officials state that the telephone company would have no choice but to increase its facilities as fast as the demand increased, while others suggest that the increased demands could be met, at least temporarily, by changing one of the less obvious of the dimensions of the company's service. More toll calls could be put through a given toll-switching facility in a given day, for example, by occasionally making customers wait a few seconds longer before their call is put through.

In addition to this flexibility in capital expenditures provided by a telephone company's limited freedom to set the standard of service which it will provide, there is some freedom also in deciding the amount of maintenance and repair expenditures which will be made in any one year. This latter freedom is, of course, one which is shared with any spending authority responsible for maintaining in service a body of fixed assets whose use lives are not rigidly set by technological factors. These two types of freedom which a telephone utility has in setting the level of its capital expenditures are related, as a sustained reduction of replacement expenditures will in time affect the level of service in the same way as will a policy of increasing the load factors on existing circuits rather than building new circuits when demand increases.

Telephone utilities, especially those under private ownership, feel obligated to provide a level of service whose more obvious dimensions do not change.

"For a telephone company service is of prime importance and we feel that we cannot afford to maintain other than high service standards — the leeway here is very slight with respect to either the amount or quality of service provided. With this limited flexibility, at a given level of demand monetary conditions would not have much effect on our capital spending."

There was some evidence also that the amount of freedom in scheduling expenditures is decreasing.

The vice-president of a large telephone system suggested that his company's freedom to schedule capital expenditures would be less in the future than in the past, now that the system is almost entirely converted to automatic equipment. He suggested that there would remain a substantial number of expenditures each year (perhaps one-third of total capital expenditures) on renewals of outside plant, placing equipment underground, direct distance dialling conversions, and new administrative buildings, which can to some extent be scheduled in the light of the current state of corporate earnings and liquidity.

Within their limited scope for adjusting expenditures, several telephone utilities have altered their capital expenditures in part because of changes in credit conditions. For provincially owned systems the adjustments have been non-existent at the management level and negligible at the provincial level. The changes in the expenditure plans of privately-owned telephone systems have been related more to changes in estimates of system demand and earnings than to changes in borrowing conditions, although interest rates were stated to be a contributing factor. Current earnings apparently affect planned capital expenditures because of their effect on the value of the company's shares. Two examples may be given:

The Board of one utility examines proposed capital expenditure programmes in the light of current and prospective earnings. If the current or prospective earnings are "inadequate", then the capital expenditures programme is reduced. "Inadequate" earnings are those which are "not sufficient to support the obtaining of the amount of money required to finance the proposed capital expenditure programme." The Board feels that whenever earnings are below a certain (but undefined) level, there are definite limits to the amount of capital which the company can expect to get from the capital market during that year. The capital expenditure programme is then trimmed "to the point where it can be successfully financed given the company's current earnings position and the state of the capital market". To the limited extent that calculations are made of the effect of proposed expenditures on current earnings, it would seem that the company's budgeting procedures are such as to cut heavily expenditures on assets with long use lives and

¹ Clark, Paul G., "Investment in the Telephone Industry", in Leontief, ed., *Studies in the Structure of the American Economy*, O.U.P., 1956, p. 261.

more particularly on those whose early years of operation are unprofitable. Most of the items which are cut out are those apparently whose effect on current earnings position cannot be easily determined, or at any rate is not determined. The items include such things as office equipment, replacement of motor vehicles, the building of supply centres, and some line replacement.

"We are, of course, concerned with maintaining and increasing our earnings to ensure that the funds that we shall have to raise will continue to be forthcoming and at reasonable terms. Obviously, the state of general financial conditions can also help. If the stock market is generally buoyant, then we can obtain a better price for our issues."

It would appear that the relative importance of current earnings as a determinant of capital expenditures will vary with general conditions in the equity market, which in turn will be in some measure related to credit conditions generally. If earnings are considered low, the reduction of capital expenditures eases the situation by reducing the current requirements for external funds. For similar reasons, capital expenditures may be kept as low as possible when borrowing conditions are difficult.

Since the telephone industry is a regulated utility, there are obvious limits to the capital expenditure adjustments which can advantageously be made.

"... the requirement for us to undertake heavy capital spending remains whether our earnings improve or not and whether or not the money markets are favourable. Only to a very limited degree are we able to advance or defer security issues to take advantage of current conditions. In the event that capital costs rose to the point where they could not be offset by economies in other directions, then our earnings and hence our ability to pay dividends and raise further capital would be impaired and we would be forced to apply for an increase in rates. The re-pricing of regulated services is not an automatic process."

Since the regulating authorities apparently all consider either directly or indirectly the interest costs of the telephone companies when they are setting rates, it is probably the dangers and difficulties attached to rate increase applications which cause some companies to adjust their expenditures at times rather than pay current rates on whatever external funds would otherwise be required. In total, the

adjustments made by the various telephone companies in the last quarter of 1959 and the first two quarters of 1960 because of the change in credit conditions probably did not exceed 2% of 1959 capital expenditures by telephone utilities.

Oil and Gas Pipelines and Gas Distribution

The companies in this industry may operate either as common carriers or as buyers, transporters, and sellers of oil or gas; in either case their operations are more capital intensive than any others but those of hydro-electric power companies. The pipelines have a life expectancy of about thirty years and are financed primarily by long-term debt. (All the 25 firms surveyed have long-term debt outstanding, while more than one-half also use bank credit to some extent.) For the firms operating as common carriers, interest on funded debt is easily the largest expense item. It might therefore be supposed that the profits on pipeline operation, and the incentives to undertake new projects, would vary considerably in response to changes in long-term interest rates. In addition to the general importance of interest rates on total costs, there are some particular areas where the level of interest rates might be supposed to play a role in setting the timing of expenditures. Pipeline companies, particularly gas distribution companies, have a certain element of freedom in deciding when to extend their service to new areas, and there is occasionally a choice between expansion of capacity by either adding pumping stations or by expending more capital and looping the line.

Our evidence indicates that none of the firms in the industry have altered materially their capital expenditures during any one year because of changes in credit conditions. None of the seven large firms interviewed had altered their spending at all, while only one of the 19 smaller firms surveyed (all but one were over \$5 million) indicated a more selective approach to new projects when interest rates are high.

One of the reasons for this lack of response is easy to spot. Excluding the two large gas distribution companies, all of the major pipelines have relied heavily on U.S. funds for their expansion. Two of them stated that the larger gap between U.S. and Canadian long-term rates in

1959-60 led to a slightly increased use of U.S. funds, while all indicated that only the larger U.S. market could provide enough funds, on reasonable terms, for major pipeline development. Among the smaller firms, many have borrowed in the U.S., and four indicated that the interest rates of 1959-60 or 1962 were responsible for additional funds being obtained in the U.S. The impact of changes in Canadian credit conditions is further reduced by the use of bank loans to finance construction until long-term rates are at a satisfactorily low level.

Beyond this general insulation from Canadian credit conditions, it was found that changes in interest rates and the availability of funds were of little importance in the planning of capital expenditures (except for one small gas distributor who spoke of a chronic shortage of long-term debt funds for small utilities).

A general reason for insensitivity is the fewness of major capital expenditure decisions, and the extent to which the timing of a project is dictated by non-financial circumstances. An interview report paraphrases the general philosophy behind the decisions.

As gas reserves build up in one area, and a potential market builds up in another, there is, under contemporary conditions of fuel cost and supply, a large and growing financial incentive to build pipelines from supply areas to market areas. Thus, although high interest costs may appear to make a pipeline operation temporarily unprofitable, the long-run prospects for profitable operation are frequently great enough (and uncertain enough) that the combined prospect of refunding at more favourable rates and taking advantage of growing market demand is great enough to remove any delaying influence that temporarily high interest rates might otherwise have.

There are also particular reasons why different firms in the industry have not adjusted their expenditures at all when credit conditions have changed. Four separate explanations serve to describe, either directly or indirectly, all the major pipeline companies.

One large pipeline operating as a common carrier has its rates set so as to produce a 7½% return on total assets employed. There are limited provisions for renegotiation of charges should costs vary materially. Although, under this system, changes in borrowing rates affect dramatically the return on equity in new projects, the company

continues to accept all new contracts whenever they become available. They operate on the presumption that as long as borrowing rates move around an average which is less than 6½% or so, the average return on new projects will continue to be acceptable. Interest rates would only affect planning if they moved out of the 4-6½% range and were expected to remain in the new range for some time. In such a case, if the rates were above 6½%, the company would ask for approval to charge higher rates.

Another large pipeline handles the problem slightly differently, negotiating each purchase and sales contract at prices which will produce a net return on assets 2% higher than the current cost of long-term funds. The company is willing to accept all contracts which can be negotiated on this basis. The company uses foreign funds on occasion to keep borrowing costs and contract prices as low as possible. Even though an increase in interest rates of 1% might cause a change in the sale price of 3% or more, the company executives doubted whether interest rate changes of the size experienced in the 1950's would have any effect on the number of contracts undertaken.

A number of pipelines carry gas or oil for consumer-owners, companies who have shares in the pipeline and use it for transporting their products. These consuming companies decide how much gas or crude they need delivered in a particular period, and the capacity is provided. Changes in interest rates, and the resultant changes in transmission costs, have apparently had no effect on the demand estimates made by the consumer-owners.

The gas distribution companies surveyed have not altered their expenditures, in part because many of their projects involve the provision of gas to new houses in their service area, and in part because they tend to use average rather than current interest rates when making feasibility studies. When credit restrictions reduce the number of housing starts and hence the number of new houses hooked up, one company attempts to counterbalance, with apparent success, this reduction in capital expenditures by increasing the amount of effort expended in persuading the owners of older homes to switch to gas heating.

Rail, Air, Motor Transport and Other Utilities

These other utilities are so diverse in their nature and operations that as a group their responsiveness to changes in credit conditions does not differ noticeably from the average of all surveyed firms. Among these utilities, differences in response seem to be related more to

the financial strength of the firm than to the value of their fixed assets. For example, the following is from an interview with one of the most capital intensive of transport utilities:

The vice-president of a large transportation utility described at length the restrictions placed on the company's freedom of purchase by technical innovation and competitive pressures, which combined to force the company to purchase a certain volume of the latest equipment. He suggested that using a differing volume of equipment to provide the same service would so increase the average cost of transport that changes in interest rates less than 2% or 3% could have no effect on the optimum pattern of capital expenditure.

Even in cases where interest rates are considered a more important element of project assessment, recent changes have not in themselves led to changes in the number of approved projects.

A major transportation utility subjects 60% of its capital expenditure proposals to rate of return calculations, and requires that projects produce an average annual return approximately equal to current borrowing costs plus 6% to cover depreciation and taxes. Study of budget cuts which have been made in recent years indicates that the projects at the margin of capital expenditures budget are in general not those on which explicit rate of return calculations have been made. An official described this state of affairs as one which was to be expected, since subordinate officials are unlikely to recommend rate of return projects unless the return which they promise is well above the accepted minimum. By the time the higher decision-making level is reached, the return on the remaining projects is high enough that they are safely inside the margin of acceptability.

The executives of some heavily capital intensive transport utilities went to considerable lengths to emphasize the lack of responsiveness of their firms to short-run changes in credit conditions.

The Treasurer and Assistant Treasurer of one very large transportation utility pointed out that their company had not altered its capital expenditure programme because of credit conditions. This was not due to any inflexibility in their plans for capital expenditure. When earnings weakened in 1957 the company had no hesitation in cutting back its capital expenditure programme but while this coincided with a tight cash position and difficulties of borrowing, they emphasized that

general credit conditions were not a factor. Similarly, when it was urged that the low rate of return realized by this company on its invested capital might cause them to be tempted, in periods of high interest rates, to make portfolio investments rather than direct investments in plant and equipment, the Treasurer was emphatic that the company was not a financial institution and changes in the relative rates of return of investment in plant and equipment and finance paper could not induce the company to defer capital expenditure in favour of making more profitable use of liquid assets.

Summary

In summary, the survey of utilities disclosed little evidence that short-run changes in interest rates similar to those which have taken place since 1954 have affected the type or value of fixed assets which utilities with easily available funds were willing to purchase. However, since utilities borrow frequently in order to finance their heavy purchases of fixed assets, there were a considerable number of cases where large capital expenditure programmes coincided with difficult borrowing conditions. In such circumstances, firms often took steps to conserve funds so as to reduce as much as possible the amounts which had to be borrowed under conditions thought to be temporarily adverse.

(h) Commercial Services

The provision of commercial services is predominated by small corporations, partnerships, and proprietorships. As the Commission's direct survey was restricted to a sample of corporations, less than one-half of the \$203 million of 1959 capital expenditures were made by the corporations from which the Commission's survey sample was drawn. The financial structure of the smaller service enterprises is similar to that of small business generally, and will be commented upon in a subsequent section. Among the larger firms in the service industry are those leasing machinery and equipment to other business firms. One such firm analyzed the effects of the 1959-60 credit conditions as follows:

"Changes in credit policy during this period had the effect of restricting the amount of business we could do to that which could be financed by our cash flow... Operations at that time were financed

by shareholders' equity and bank loans,... and the credit restrictions then current hastened the steps taken to become a public company and seek additional funds from the investing public... In our business we cannot say from experience that a restriction of bank lending causes people to seek our service as a means of solving their difficulties. We find that there is as much or possibly more demand for our services when bank credit is normal or expanding."

This would appear to indicate that the demand for some types of leasing depends on incentives other than the non-availability of borrowed funds. Evidence was received to indicate that demand for some other types of leased equipment is related to credit conditions.

In general, with the chief exception of the equipment leasing firms, the capital expenditures in this industry are relatively minor, consisting mainly of office and automotive equipment and apparently not subject to significant alterations because of changes in credit conditions.

(i) Construction Industry

There was considerable evidence received that capital expenditures in this industry have been directly affected by credit conditions. The capital expenditures made by firms in this industry include purchases of machinery, equipment, and buildings for their own use, as well as their construction, as owners, of other buildings which might subsequently be sold. The questionnaires mentioned a considerable number of postponements which turned out on interview to be related to expectations about the long run competitive situation in the industry rather than short run changes in the availability and cost of credit. Sometimes construction firms were able to provide evidence of cases in which building projects had to their knowledge been postponed through failure to obtain interim construction credits or mortgage funds during a period of restriction. Several firms spoke of changes in anticipated construction demand having some effect on the volume of capital expenditures made by the construction firm itself.

"One of the first agencies to reduce loans for housing is the private mortgage company. This throws a greater number of loans to CMHC, but they become more selective, particularly regarding loans in small towns. We can point out many

specific instances where individuals have postponed or cancelled house orders because of reduction in NHA loans. To go ahead the customers must therefore put up more money and pay higher interest rates for a mortgage."

"Most recently our contracting department was a successful bidder on an addition to a Legion. The cost was to be \$100,000 — \$60,000 to come from a mortgage arranged earlier. By the time the drawings and bids were completed, the money was no longer available. This job may later go ahead, but this is a simple example of actual slowdowns caused by lack of credit."

"Period of tight money definitely reduces volume of construction work available. This consequently would reduce any capital expenditure planned or required to maintain or expand our equipment."

Other firms were unable to get funds for projects which they wished to undertake on their own account, or for equipment needed to bid for contracts:

"This company borrows money in the form of mortgages on speculative homes. Nearly all homes are sold in the fiscal period, hence the relatively low amount of capital expenditures shown on balance sheets at year end. When NHA money is restricted our speculative and contract bidding is obviously curtailed and in order to continue building we must take conventional mortgages, use our bank credit or use internal funds."

"We hope, like most other firms, to extend our volume, relying on bank support to provide working capital and some equipment. In 1959 we had the opportunity to bid, with the strong possibility that our bids would be accepted, on two large contracts, each of which was expected to produce an attractive profit. But since the bank was unwilling to provide the support necessary for us to buy the equipment which the projects required, we were unable to submit bids." The company had discussions with its bank at this time (the late summer of 1959), and the bankers were unwilling to extend the company's line of credit enough to allow the necessary equipment to be purchased without impairing the working capital required to carry on with the company's other projects. The company's bankers were apparently of the opinion that the projects were worthy of support, but the funds just were not available at that time. "This year (1962) we are having to turn down many attractive contracts because we just cannot finance them." At present there are apparently at least four substantial projects (ranging in value from \$½ million to \$4 million)

the company cannot undertake because the bank is unwilling to provide the interim financing for the construction. The bank had agreed in June to provide interim financing for a large construction project. The following week the austerity measures were announced, and the bank withdrew its support. The firm felt that the bank's refusal was the kiss of death for the project, and did not make any direct attempt to obtain interim financing from other sources.

The executives agreed that their inclination to buy new equipment in 1962 had been reduced to some extent by the austerity programme curtailment of government expenditures, but both were of the opinion that more equipment would have been bought if funds were available, even in the light of the current level of anticipated demand.

In times of easier credit, the effects noted above were to some extent reversed, although there were relatively few instances recorded in the questionnaires and interview reports.

"We have purchased a considerable amount of fixed assets in 1962. This we feel is due to the increased volume of work made available by others undertaking building programmes. These undertakings by others were probably influenced by the availability of credit."

One third of the construction firms said they were unaffected because they relied only on internal sources, while others had not been affected by variations in the supply of external funds.

"Basically — financed by retained profits — mortgage loans from lending institutions — at no time has there been any lack of funds."

In total the 1959 capital expenditures by firms in the construction industry were \$145 million, 90% of which was on machinery and equipment. The total effects of changes in credit conditions on these expenditures for the last quarter of 1959 and the first half of 1960 might be 5%, taking some account of the equipment which was not bought because of the volume of contracts was lower than anticipated.

(j) Trade

This industry, like the service industries, is comprised of many small business units, although in trade there are also several very large enterprises. The capital expenditures in this industry were in large measure (perhaps 80% of \$363 million) made by 30,000 corporations, about

\$75 million being spent in 1959 by the approximately 200,000 unincorporated business units. Credit conditions influence wholesale or retail companies by:

- (i) Affecting the availability of working capital, and thus the firms' ability to expand.

"Every time credit was suddenly curtailed, we went 'shopping' to other banks. But this was, of course, just the time when they were unable to meet the demands of their present customers, so we just had to earn a name for 'slow pay' with suppliers and at times lose distribution of valuable lines due to our inability to pay promptly."

A senior executive of a small chain of retail stores reported as follows: "Our experience has been that in the three major periods of tight money as a government policy, we were notified by our bank that a review of accommodations would be necessary and even though no formal change in the line of credit would be made, we were urged to reduce our demands on this line and it was clearly inferred that should this not prove effective formal reduction would be necessary. The result of the policy was, therefore, that we should immediately reduce our current purchases and attempt to live off our inventories."

A small wholesale lumber dealer wrote: "The volume of business we can do is substantially determined by the availability of bank credit. This was felt most severely during the 1956-57 period when we were forced to sharply restrict our sales to those customers who did not normally pay in a very prompt manner. Since over 50% of our sales are exported, this not only restricted our activity, but also curtailed the inflow of foreign exchange."

- (ii) Affecting the availability of term loans or mortgage funds for the purchase of new premises.

A small chain of retail clothing stores was expanding rapidly and opening new branches at the time credit was restricted in 1959, and found themselves unable to get an extension of their \$200,000 line of credit, even though they had \$1 million of accounts receivable to pledge as collateral. The Treasurer remarked: "It is amazing what \$100,000 of bank credit means—if you don't have it when you need it." The company found that there was little money available even for factoring of accounts receivable. They managed to engineer one sale and leaseback, but it was not done soon enough to prevent large inventory cuts and a halt in the expansion programme. The company looks upon the major effect of the 1959 credit restrictions as being due to the unhappy

coincidence of tight credit and a major expansion programme. Even though they think such a coincidence is not likely to happen again, they are now much more wary in planning and making capital expenditures.

- (iii) Affecting the anticipated sales volume, and thus the firm's willingness to undertake expansion. This effect was especially noticeable in the case of firms supplying the construction and equipment industries.

"The availability or otherwise of credit has had a marked effect on our customers and consequently on our profits from which we finance all capital expenditures."

"It would be very difficult to show that any of our capital expenditure postponements had been directly due to credit conditions. Credit conditions affect us, by affecting our sales; in 1956-57, credit conditions (and other factors) reduced our sales to the point where we did not expect our profits to be large enough to justify expansions. It has been company practice for several years to use net earnings minus dividends as an upper limit on the total of capital expenditures in any one year. Anything which changes our sales is therefore likely to affect our capital expenditures as well." Most of the company's sales are earth-moving and road-building equipment, and the Treasurer considers these sales to be quite variable in response to changes in credit conditions.

A farm implement manufacturer decided in the fall of 1959 to make minor additions to their present plant rather than spend \$300,000 on a new plant, even though their banker was willing to provide the necessary funds. The manager explained that "The reason for this is that our bank manager advised us that due to restriction of credit, our customers would not be able to purchase farm equipment. Therefore we saw no reason to expand to produce goods which our customers would not be able to buy."

(2) Effects on Small and Large Business Compared

There are some difficulties in using data from the Survey to draw conclusions about the relative capital expenditure effects of changes in credit conditions on firms of various sizes. As indicated earlier, the survey was intended to provide a census of all firms with assets over \$5 million and a sample of smaller corporations was drawn at random by the Department of Na-

tional Revenue and the Dominion Bureau of Statistics. Thus the possibility of sampling error arises in the case of the smaller firms. In addition, the surveyed firms \$5-90 million include only firms not more than 50% owned by another active Canadian corporation, an attempt being made to have majority-owned subsidiaries consolidated in the questionnaire completed by the senior operating company in the group. The small firm sample, on the other hand, was chosen randomly from a sample of active corporations, only those firms being removed which were to the knowledge of the D.B.S. wholly owned by other Canadian corporations. Although the nature of the ownership of many of these firms has been established, many of the remaining firms may be subsidiaries of domestic or foreign corporations.

In addition to this element of doubt about the "effective size" of some of the firms in the small sample, there is some difficulty in cataloguing the answers of the non-responders, many of whom were interviewed by telephone at a later date. Differences in the administrative structure of larger firms as compared with smaller may be responsible for the significantly lower response rate from small firms as well as the apparently greater margin of error in the questionnaires completed by smaller firms. The fact that answers from smaller firms were slightly less likely than answers by larger firms to be supported by interview evidence provides some indication that financial terms and markets are less familiar to executives of smaller firms, and thus that a questionnaire requiring some degree of familiarity with the financial system might fail to provide a reliable measure of the effects of credit conditions on decisions by smaller firms. Finally, the number of completed questionnaires received from the firms in the smallest size classes was too small to give an accurate indication of the reaction of the smallest firms even under the assumption that the questionnaire answers were equally reliable guides to the responsiveness of firms of different size classes. Thus, although efforts were made to design a questionnaire which would be equally applicable to firms of all sizes, and the sample was stratified to provide known coverage of all size classes, the final results of the

questionnaire survey are relatively weak with respect to the smaller firms.

In an effort to obtain the maximum amount of corroborative evidence to supplement the questionnaire data dealing with small firms, the Commission's research staff made other efforts to assess the relative frequency and magnitude of the effects of credit conditions on firms of various sizes. In several regions of the country, officials of trade associations and development boards of various types were interviewed and asked for references to small firms (below \$5 million in assets, and thus not assured of receiving a questionnaire) which had in the past decade been affected by changes in the cost or availability of credit. In a similar way, bank managers were interviewed in various parts of the country in an attempt to derive from them an assessment of the number and characteristics of the firms who were not able to get, during periods of restricted credit, the bank accommodation they might have expected to get during periods of lower interest rates and more plentiful bank reserves. Finally, the C.M.A. questionnaire answers dealing with the availability of bank credit in 1956 and 1962 were gone over to glean any references to capital expenditure postponements related to difficulty in securing bank

loans. These supplementary sources of information were not used as the basis for the Commission's estimate, but they provided a valuable and much needed check on its accuracy.

The unverified questionnaire data indicate that a higher proportion of firms under \$5 million in assets postponed capital expenditures in 1959-60 than did firms in the \$5-\$90 million category. The proportion was 10.0% of all respondents in the under \$5 million category as compared with 5.8% of the firms \$5-\$90 million, and, if all known subsidiaries of Canadian and foreign corporations are removed, 11.1% for the small firms and 7.7% for the large. If these percentages are adjusted for the proportions of postponements which were indicated by interview evidence to be not related to a change in credit conditions, the percentage of all small firms drops to 3.0% as compared to 2.3% for the firms \$5-\$90 million in assets. If the subsidiary firms are removed from both groups, the percentage of small firms rises to 3.0% and that of large firm to 3.2%. Taking the last comparison as the one which is most meaningful as an indicator of the effect of size on responsiveness, this difference is not a significant one. Tables VII-3, VII-4 and VII-5 provide a more detailed breakdown.

TABLE VII-3
FIRMS UNDER \$5 MILLION
Analysis by Size Group

	Under \$100,000			\$100-250,000			\$250,000-\$1 million			\$1-5 million			Total		
	58			96			252			229			635		
	9			15			38			27			89		
Total Number of Firms Replying	A	I	V	A	I	V	A	I	V	A	I	V	A	I	V
Total Number of Firms Interviewed															
Postponed or Abandoned															
Capital Expenditures:															
1956-57	1	1	0	9	4	1	15	11	2	11	5	1	36	21	4
1959-60	5	4	1	15	8	2	22	16	5	22	12	4	64	40	12
1962	6	4	0	14	9	1	33	19	2	24	11	3	77	43	6
Any Year	10	7	1	17	10	2	42	24	7	34	15	7	103	56	17

A = Number of firms giving a positive answer to the questionnaire.

I = Number of above firms subsequently interviewed.

V = Of the interviewed firms, the number whose answers were partially or wholly verified.

TABLE VII-4
FIRMS OVER \$5 MILLION
Analysis by Size Group

	\$5 - \$10 million			\$10 - \$15 million			\$14 - \$25 million			\$25 - \$50 million			\$50 - \$90 million			Size Unknown			Total		
Total number of Firms Replying	223			90			95			109			51			18			586		
Total number of Firms Interviewed	36			19			22			23			16			1			117		
	A	I	V	A	I	V	A	I	V	A	I	V	A	I	V	A	I	V	A	I	V
Postponed or Abandoned																					
Capital Expenditures:																					
1956-59	11	10	1	4	4	1	4	1	0	1	0	0	2	2	1	0	0	0	22	17	3
1959-60	17	16	4	5	3	1	6	4	2	3	2	1	3	3	0	0	0	0	34	28	11
1962	22	18	4	3	2	0	8	6	4	5	4	2	5	5	4	0	0	0	43	35	14
Any Year	28	24	7	8	6	2	12	8	6	7	5	3	7	7	6	0	0	0	62	50	24

A = Number of firms giving a positive answer to the questionnaire.

I = Number of above firms subsequently interviewed.

V = Of the interviewed firms, the number whose answers were partially or wholly verified.

If consideration is given to the size of projects postponed rather than to the proportion of firms making postponements, the effects of changes in credit conditions appear to be greater on the smaller firms. The reason for this is the relatively smaller fraction of small firms making significant capital expenditures in any given year. Thus for those smaller firms affected, the postponed capital expenditures tend to be a larger fraction of their annual capital expenditures than is the case for larger firms.

A further proposition is that firms with assets below \$100,000 and above \$5 million make proportionally fewer and smaller demands on bank credit than firms between these sizes, and therefore, other things being equal, firms with assets between \$100,000 and \$5 million are more likely to have their expenditure affected when there are restrictions placed on the availability of bank credit. Of course, the mere use of bank credit in certain amounts is not necessarily an accurate guide to the extent of reliance upon it. Thus the Canadian Manufacturers' Association questionnaire returns indicated a larger fraction of respondents with sales under \$250,000 having had difficulty in obtaining desired bank credit in 1956 and 1959 than of firms with sales \$250,000 to \$1 million. Nevertheless, there appeared a certain weight of evidence indicating that many

firms with assets below \$100,000 (and often firms much larger) relied entirely on retained earnings and loans or investments from one or a small group of shareholders.

The owner of a small (under \$100,000 in assets) dairy wrote as follows: "I have not completed the questionnaire because it does not apply. This is a small, privately-owned business, financed originally in 1947 - family only - there has been no subsequent financing. To date, operating costs and capital expenditures have been met from general revenue."

"Our company is a rather small, privately-owned company having sufficient cash in the bank for our need and also an additional reserve invested in government bonds. Fortunately this condition has existed for many years, with the result that we have not found it necessary to seek credit; therefore, you will appreciate we are not in any position to supply any information on the matter of credit with which we have never been familiar."

"All our financing has been done internally and we have never gone into the market for money. We have not established a line of credit with our bank since we have always maintained sufficient cash to handle our operations. We do not contemplate any change in this policy in the foreseeable future. We might add that the only effect this tight money situation has had on our operations has been the slow-up in collections from our customers. As a result, we have been possibly somewhat more lenient during tight money situations on collections."

Indications were received from questionnaires and bank interviews that loans under the Small Business Loans Act and from the Industrial Development Bank were often available, particularly in the 1962 period of credit tightness, to finance the capital expenditures of the smallest businesses.

"One branch manager of a chartered bank could recall only three projects in 1959 of a type which would have been approved before the restrictions were in force. Of these three projects, all involving capital expenditures, none was delayed a significant length of time by the failure to obtain bank financing of adequate proportions. One project was financed entirely by the I.D.B. The second was financed temporarily by the Bank on the understanding that the I.D.B. would provide long-term financing as soon as construction was completed; while the third received temporary financing from the I.D.B. until long-term financing was arranged from a large American supplier.

From somewhat larger firms there came more frequent comments that the lending attitude of the chartered banks was the chief determinant of expansion decisions.

"Our plans were affected in the years 1959-61 and 1960-62, in 1959 and 1961 by our inability to increase our bank loans to cover our expanding business. In 1962 with the tremendous extension in business we were unable to get required bank loans, which in turn made us lean more heavily on our suppliers than at any time in our history... to sum up what I am probably saying,.....when you need a cure for a cold that is not readily available and by the time the cold is over the cure is not required. Medium sized business with a staff of employees between 100 and 150 with annual sales of \$1.5 to \$2.5 million is a forgotten entity in our economy. It seems that all eyes are continually turned to the problems of firms below and above this size and it becomes increasingly impossible for this size industry to survive..." The interview disclosed that ever since 1956 the company has not been able to get the credit desired. The company's situation is not just one of a firm chronically short of funds, as there have been definite cyclical fluctuations in both directions in their ability to borrow funds.

A construction company got more contracts than usual in 1962 but, because of the tight money, the bank would do little to help finance their expanding business. When the bank manager came into the firm's office to negotiate in June of 1962 for the annual negotiating of the firm's line of credit, he brought in his hand a copy of

that day's newspaper announcing the austerity programme. "This" remarked the Treasurer, "was a bad bit of luck". In view of subsequent pressures on the company's line of bank credit, no capital expenditures could be contemplated during 1962.

Few firms with assets below \$5 million find themselves able to make market issues of stock or bonds and those who do may be on the margin of the market and therefore least likely to find willing purchasers in times of high interest rates. Some of these firms are able to draw on funds from foreign sources.

"A small manufacturing company required \$500,000 additional capital in the spring of 1960. Toronto brokers proposed convertible debentures and common shares as alternatives. The brokers collected seven offers from within Canada and two from the United States. None of the Canadian offers matched in price either of the American offers and the Canadian offers all involved a much larger transfer of shares. The U.S. deal was consummated early in 1961.

Those who have suggested that monetary and debt policies can be expected to have a greater effect on small firms than on large have frequently based their case on the difference in the range of alternative sources of finance open to large firms as opposed to small, and the greater bargaining strength of the large firms in dealing with financial institutions. They have suggested that in the unlikely event that a bank is unwilling to make available credit to a large customer who wants it, such a customer can usually turn to other domestic or foreign financial institutions or arrange for a market issue in either Canada or some other country. Bargaining strength and access to a variety of alternative sources of finance are related, but it is frequently suggested that fear of losing the good will of a major account rather than concern for the loss of a particular piece of business will be a factor in the relations between a financial institution and a large customer. It is argued that, on the other hand, the small customer is in a much weaker bargaining position in dealing with any one financial institution and is further handicapped by the limited alternatives which are open to him if he cannot obtain accommodation from his usual sources.

Much of the evidence which we have collected is consistent with this view. Most large firms are in a strong bargaining position when dealing with financial institutions, and if their lines of credit are reduced this frequently happens because they permit it to happen rather than because they have no choice. Moreover, if accommodation is not readily available from one source, they frequently have alternative sources in Canada and elsewhere, where they can obtain credit at little extra cost. Thus, in general, it is true that when large firms respond to a change in credit conditions it is not because they cannot obtain credit on acceptable terms but rather that a rise in interest rates and the general changes anticipated in the business climate suggests the need for caution. In general, small firms are not in as favourable a bargaining position when dealing with a bank or other financial institution and being too small to make use of market issues in Canada or abroad are much more dependent on the availability of credit from institutions or, in the form of trade credit, from other non-financial corporations. Thus it can be said that small firms are potentially in a position to be affected to a much greater extent than large firms by a change in credit conditions which includes restriction on the availability of credit in addition to changes in interest rates.

This potential effect is a matter of considerable importance. The principal barrier which exists to widening the range of credit conditions in Canada is the effect of interest differentials on international capital flows. If, for example, Canadian long-term interest rates became much higher or much lower than those prevailing in the United States, the level of capital flows under normal circumstances might become very large indeed. It was pointed out in the Commission's Report that one temporary avenue of escape from experiencing the full impact of a change in credit conditions on interest rates was through the use of specific limitations on particular types of credit. To the extent that such controls affected availability with a dampened effect on interest rates, they would bear particularly heavily on smaller firms. Indeed, the very purpose of such controls would be to affect borrowers who did not have ready access to foreign sources of funds and thus to achieve a restric-

tive effect without excessive international capital flows. The more perfect the market, the more readily changes in credit conditions will be transmitted to interest rates and the more quickly capital flows will respond to any divergence between the monetary and debt policies followed in Canada and those followed abroad, particularly in the United States. If, therefore, a decision were to be taken in the future to use monetary and debt policies with greater vigour than in the past and with wider swings than those characteristic of the United States, the methods used would probably have to be of a kind which affected firms without foreign sources of funds, i.e. smaller firms without foreign parents.

While we have found that a higher proportion of expenditure of smaller firms was affected by recent changes in Canadian credit conditions than was the case for larger firms, we have not found that a higher proportion of smaller firms by number were affected. As suggested above, the evidence for this is rather weak and not too much reliance can be placed upon it. There are, however, several reasons why a sharp difference in the effects on small and large firms might not emerge. As has been indicated above, there are many exceptions to the general rule that small firms are more vulnerable to change in credit conditions than large firms. Many such firms are financed internally and in the case of the smallest firms their financial needs can frequently be met from the personal resources of the owners. In the case of firms which do not fall into this category, it is worth remembering that in recent periods of tight money the chartered banks have had a specific policy of avoiding undue restrictions on small borrowers and this had probably had the effect of evening out the pressure on firms of different sizes. It is worth adding that the results of the survey were not sharply at odds with other information which we and other members of the staff of the Commission were able to collect on the effects of credit conditions on small business.

In summary, our results for 1959-60 do not suggest that a higher proportion of small firms as opposed to large firms was affected by credit restraint, although a higher proportion of expenditure by small firms was affected. We would stress, however, that the evidence for this

view is not of the best and, as pointed out in earlier paragraphs, we do not think that this result is of any great significance as a guide to the future if there were significant differences in the mix of interest rates and availability which made up a change in credit conditions.

(3) The Effects of Changes in Credit Conditions on Firms with Non-Resident Ownership.

For the purposes of analyzing the possible differences of effects of monetary policy on firms controlled inside Canada as compared to those controlled abroad, an attempt was made in Table VII-5 to classify the respondent firms according to country of majority ownership.

The classification was somewhat rough, particularly in the smaller size classes where less information was available, but it was close enough to reveal dominant trends in the questionnaire responses.

So far as both number of firms and value of investment are concerned, the foreign controlled firms are most important in the larger asset size classes, and in the "petroleum" and "other manufacturing" industrial grouping. Of the 83 firms with the assets above \$90 million, approximately 47% are controlled outside Canada, 18% are government-owned utilities, and the rest are corporations controlled in Canada. Of the 586 respondent firms with assets between \$5 and \$90 million, 47% are controlled outside Canada. The corresponding figure for the small firm sample is 18%. The sources of finance and types of organization of firms controlled outside Canada vary within large ranges, but in the aggregate they differ markedly enough from those of domestically controlled firms that monetary policy might be expected to affect their actions in different ways. The clearest indication of the difference in the effects of Canadian credit conditions on firms controlled abroad is to be found in the comments in letters and questionnaires. A selection of the comments is produced below:

"...is a wholly-owned subsidiary of - (U.S.)... the financial policies of the parent and subsidiary companies are influenced more by the fiscal and monetary policies of the U.S. government."

"Since we are a subsidiary of an American company, all our records are maintained at our head office in the United States."

"As - is a wholly-owned subsidiary of - (U.S.), we do not feel that our answers to your questionnaire would assist you. Our financial transactions are mostly done through our parent company..."

"The - Co. is a small firm with the parent company in England. ...all financial arrangements are managed by the parent company."

"In view of the fact that this company relies exclusively upon its own and its parent's sources of finance, the questions asked would not be applicable to our operations."

"Our company is a wholly-owned subsidiary of- (U.S.) and as such we are not allowed to have bank loans, and in the past we have had no problem in financing. We are a small to medium sized company and we should state, however, that if we were not in this favourable position we would have found it extremely hard to finance any capital expenditures during the current government's austerity period."

"This company, although directed and operated entirely by Canadians is a wholly-owned subsidiary of - a U.S. corporation. Under terms of a revolving bank credit agreement, negotiated several years ago by our parent company, subsidiaries may not borrow but rather are financed out on this agreement. As a result of this situation, changes in credit conditions in Canada do not have a direct effect on the operations of this company and our ability to negotiate loans through inter-company channels depends more closely on conditions affecting the credit of our parent."

"If bank lending rates were over 6%, we would borrow from the parent company in the U.S."

"Not permitted by our parent to borrow. A covenant by our parent to insurance companies restricts borrowing by subsidiaries. However, in the last few years we have not needed their help, i.e. 1961 and 1962."

Since there were many comments of the above type made either in explanation of not completing a questionnaire or in amplification of questionnaire answers, it is clear that many subsidiaries are not directly affected by Canadian credit conditions. This provides the most obvious explanation of the fact that for firms with assets \$5-\$90 million only 4% of foreign subsidiaries stated that the change in credit conditions in 1959-60 affected their capital expenditure plans as compared to 7.4% of similar sized firms controlled in Canada. The proportion of subsidiaries affected by credit conditions is therefore significantly lower than that of independent Canadian firms; it is as high as it is because there are

TABLE VII-5
FOREIGN SUBSIDIARIES
Analysis by Size Groups and Comparison with Non-Subsidiaries

	Under \$100,000	\$100-\$250,000	\$250,000-\$1 mill.	\$1-\$5 million	\$5-\$10 million	\$10-\$15 million	\$15-\$25 million	\$25-\$50 million	\$50-\$90 million	Size Unknown	Total Foreign Subsidiaries	Total Subsidiaries of Canadian firms	Total firms not subsidiaries of either Canadian or foreign firms under \$5 million	Total firms not subsidiaries of either Canadian or foreign firms (\$5-90 mill.)
Total Number of Firms Replying	5	4	37	67	91	43	47	53	24	16	387	19	503	312
Total Number of Firms Interviewed	1	0	5	6	11	4	11	9	5	0	52	2	131	77
	A I V	A I V	A I V	A I V	A I V	A I V	A I V	A I V	A I V	A I V	A I V	A I V	A I V	A I V
Postponed or Abandoned Capital Expenditures:														
1956-57	1 1 0	0 0 0	1 1 0	1 1 1	4 3 0	1 1 0	2 0 0	0 0 0	1 1 1	0 0 0	11 8 2	0 0 0	33 18 3	14 12 2
1959-60	1 1 0	0 0 0	1 1 1	3 2 1	7 6 2	2 0 0	2 1 0	0 0 0	0 0 0	0 0 0	16 11 4	2 1 1	57 35 9	23 21 9
1962	0 0 0	0 0 0	3 3 0	5 1 0	7 5 1	1 0 0	4 3 2	1 0 0	0 0 0	0 0 0	21 12 3	1 0 0	68 39 6	30 27 11
Any year	1 1 0	0 0 0	3 3 1	6 2 1	8 6 2	3 1 0	5 3 2	1 0 0	1 1 1	0 0 0	28 17 7	2 1 1	91 54 14	44 39 19

A = Number of firms giving a positive answer to the questionnaire.

I = Number of above firms subsequently interviewed.

V = Of the interviewed firms, the number whose answers were partially or wholly verified.

many subsidiaries, both large and small, whose parents expect them to finance their activities by retained earnings and borrowings in Canada. In general this was more likely to be the case for subsidiaries of British and European firms than for firms with U.S. parents. The answers given to question 2 by firms whose capital expenditures were not affected by Canadian credit conditions provide the best measure of the number of subsidiaries which rely upon Canadian financial markets. Among these firms with assets \$5-\$90 million, whose capital expenditures were not affected by credit conditions during any of the three periods mentioned in the questionnaire, 45% of the Canadian controlled firms stated that it was because they relied only on internal sources of finance or advances from associated companies, while 64% of subsidiaries provided the same answer. A similar indication is provided by the answers to question 8 dealing with the firms' sources of funds which showed that 63% of Canadian controlled respondents \$5-\$90 million had borrowed on a bank line of credit on occasion between 1955 and 1962, as compared to 39% of firms controlled abroad. If a division is made between Canadian firms the majority of whose shareholders are non-residents individuals, and firms whose majority shareholder is a non-resident corporation, the subsidiary firms can be seen to rely less on Canadian sources of finance than do the firms controlled by non-resident individuals.

In general, the parent-subsidiary relationship provides for the subsidiary company sources of finance equal in scope and depth to those open to a much larger independent firm. This in itself would tend to provide for subsidiary firms ways of avoiding direct effects of changes in credit conditions. Subsidiaries of Canadian firms (which were completely excluded from the \$5-\$90 million group for the purposes of analysis, and partially excluded from the small firm sample) would, of course, share this insulation with subsidiaries of foreign corporations. Subsidiaries of foreign corporations, however, have even greater insulation, which they share to some extent with other firms controlled abroad, from credit conditions in Canada in that the funds to which they have residual access are obtained in foreign markets not directly affected

by interest rates in Canada. In view of the mixed evidence regarding the relative ease with which small and large firms can obtain funds when credit conditions change, this latter reason is perhaps the more important factor explaining the lesser effects of changes in credit conditions on foreign subsidiaries.

(4) Regional Differences in the Effects of Monetary Policy

One of the chief bars to the effective measurement of the geographical distribution of the effects of monetary policy is the widespread nature of the operations of many Canadian firms. In addition, the nature of the markets for capital and goods in Canada are such that the locations of the head offices of corporations are not likely to be distributed regionally in the same way as are their operations. Since the location of firms for the purpose of the Commission's survey was taken to be the same as the location of its head office, the data in this section refers to the geographical distribution of corporate head offices rather than their operations or capital expenditures. This is of more importance for the larger firms than the smaller. Thus the evidence from the 83 largest firms gives very little information about regional differences in the effects of cyclical changes in credit condition, while that from the firms with assets \$5-\$90 million is somewhat better.

If there are regional differences in effects which are due to more than a chance distribution of events or the geographical location of natural resources, they must be due in some way to differences in sources of finance or relationships with financial institutions. Questionnaires were received from several regions suggesting that firms outside the larger financial and industrial centres are unable to get funds on as good terms as similar firms operating closer to financial centres. Such opinions are difficult to evaluate, since firms outside the major industrial areas are necessarily operating in a different environment, which in turn must affect the attractiveness of the firm for investors and lending institutions. The object of the Commission survey was not to evaluate relative ease of access of similar firms in different regions to

sources of long and short-term funds, but to measure the relative effects of changes in credit conditions of firms in different geographical locations.

The chief difficulty in testing for regional differences is the small numbers of firms in some regions. Since the small firm sample was chosen on a random basis, and the firms above \$5 million tend to be predominantly in Ontario and Quebec, the number of completed questionnaires from some regions is too small to be a reliable sample. The distribution by region is shown in Table VII-6. If proportions of firms stating capital expenditure postponements in 1959 are used as the measure of responsiveness, and if the questionnaire responses are not adjusted to account for interview evidence, all the provinces except Ontario and Quebec are above the national average, with Ontario being further below the average than Quebec. British Columbia with an indicated response of 17.9% compared to an average for the rest of Canada of 7.2%, is the only region where the difference is significant. If an alleged postponement in any of the three periods is taken as a measure, Saskatchewan and B.C. are significantly above the aver-

age of other provinces. If the interview evidence is taken into account, the differences lose most of their significance. The responsiveness of inventory investment follows approximately the same pattern.

The reasons for greater responsiveness may include, as some respondents suggest, the better access of firms in some regions to alternative sources of funds, firms in the regions with less well developed financial markets being more likely to be without alternative sources of funds when funds become less available.

A response from a retail chain in the Maritimes contained this comment: "We endeavour to procure capital by debenture issues and first mortgage bonds for our building and expansion programme. We find it very hard to get financial institutions in the cities of Montreal and Toronto, who are deriving a great amount of their income from the Maritimes, to invest in the aforementioned Maritime securities, and we are obliged to pay at least ½ or 1% more for funds. We have been told by most of the insurance companies in Canada that we have canvassed that they can find enough places to invest their money which are domiciled in the provinces of Ontario and Quebec. As these companies are much closer to their head office, they are able to keep funds under better scrutiny."

TABLE VII-6
ALL FIRMS RESPONDING TO THE MAIL SURVEY
Analysis by Region

			Ontario			Quebec			Maritimes			Manitoba			Saskatchewan			Alberta			B.C.			Outside Canada			Total			
Total number of Firms Replying			561			313			43			53			27			103			106			15			1221			
Total number of Firms Interviewed			83			63			5			13			1			19			22			0			206			
			A	I	V	A	I	V	A	I	V	A	I	V	A	I	V	A	I	V	A	I	V	A	I	V	A	I	V	
Postponed or Abandoned Capital Expenditures:—																														
1956–57			15	13	1	14	8	1	2	1	0	2	1	1	2	0	0	8	6	1	15	9	3	0	0	0	0	58	38	7
1959–60			32	25	11	24	15	3	5	3	5	5	2	3	1	0	0	10	6	0	19	13	4	0	0	0	0	98	68	23
1962			48	30	9	29	21	3	4	2	2	5	5	1	7	1	0	11	7	2	16	11	3	0	0	0	120	78	20	
Any year			64	43	19	41	26	6	6	3	3	8	7	3	7	1	0	15	10	3	24	16	6	0	0	0	165	106	41	
Reduced Inventories:																														
1956–57			41	14	5	20	12	2	3	1	1	1	1	1	0	0	9	4	0	14	8	2	0	0	0	0	89	40	11	
1959–60			77	25	5	33	21	2	5	2	2	3	2	1	3	0	0	11	5	0	23	12	4	0	0	0	155	67	14	
1962			88	28	9	44	27	3	4	1	1	6	5	2	4	0	0	13	7	0	19	12	4	0	0	0	178	80	19	
Any year			112	35	11	57	33	4	5	2	2	6	5	2	4	0	0	15	7	0	27	15	4	0	0	0	226	97	23	

A = Number of firms giving a positive answer to the questionnaire.

I = Number of above firms subsequently interviewed.

V = Of the interviewed firms, the number whose answers were partially or wholly verified.

The small sample of Maritime firms surveyed was supplemented by a series of interviews with a broad cross-section of firms. The impression was gained from both questionnaires and interviews that the relatively minor (in both absolute and proportionate terms) effects of monetary policy in this area cannot be traced so much to good connections with financial markets as to a stable population of firms with a relatively low rate of growth. In these circumstances, a large fraction of all firms is not likely to find credit unavailable. Interviews disclosed a number of such situations.

A family firm, over 100 years old, operating in the Maritimes, has based its capital expenditure planning for some decades on the philosophy that a steady and balanced growth is better than a growth which proceeds in fits and starts in response to periodic changes in business prospects or credit conditions. This philosophy originally induced the company to undertake considerable expansion during the depression of the early 1920's, and the proven profitability of that expansion had led the company to continue graduate expansion even when conditions are temporarily adverse.

A small family wholesaling firm in Nova Scotia has expanded steadily for many years, financing growth by means of bank loans and retained earnings. The company has never asked for more bank credit than it has been able to obtain, or

has never altered capital expenditure plans because of changes in the cost or availability of credit. When asked a more general question about the effects of credit restrictions on business in Nova Scotia, the executives were unable to draw from their years of experience any instance in which it has come to their notice that the capital expenditure plans of any regular commercial enterprise has been significantly affected by changes in the cost or availability of external funds.

If it is true, as the above information suggests, that there are relatively more firms with low rates of growth in some regions than in others, it is obvious that the use of proportions of firms affected as guide to the distribution of expenditure effects is not advisable. Unfortunately, the survey data referring to actual postponements is too slight to be used for comparisons of this kind.

Another reason for regional distribution of effects may be the geographical pattern of industry. The response in Alberta is relatively low in part because of the large number of foreign financed oil firms. In British Columbia the response may be high because of the existence of a substantial number of small independent units in the forest industry.

INVENTORY INVESTMENT, INTEREST RATES AND THE AVAILABILITY OF CREDIT

Most of those who have held that monetary policy exercises a considerable influence over corporate investment have looked for the main effect in expenditure on plant and equipment. There are exceptions, of whom Sir Ralph Hawtrey is the outstanding example. In his memorandum to the Committee on the Working of the Monetary System, Sir Ralph argued along the following lines:

"Even when a rise in the short-term rate of interest, and its reactions on the investment market require a re-consideration of the calculations previously made, a capital enterprise cannot be postponed without heavy loss after a certain stage in the proceedings have been reached.... The cost of temporary borrowing has therefore very little effect upon the action of those embarking on capital enterprises.... On the other hand, borrowing for the purchase of materials for use in production is bound to be sensitive to the terms of borrowing."

(Memoranda of Evidence, Volume III, p. 118, para. 24-26)

Over the decades in which this position has been put forward, few have become converted to the view that it is changes in inventories which provide the main effect realized from changes in credit conditions.

The evidence from the Survey indicates that the interest rate component of credit conditions usually has very little effect on investment in inventories. In the course of the interviews with large firms, executives were asked for an explanation of the procedures used in establishing and achieving inventory targets. The following examples have been selected to indicate the role of interest rates in inventory level determination in various industries.

A large primary metal producer has feed inventories of raw materials which are established as a small percentage of forecasted sales. Most raw materials and supplies are not stocked until specific orders are received. Inventory levels are set in terms of physical volume, and no computations are made of the costs of carrying inventory.

A large oil company keeps inventory stocks adequate to fill anticipated demands, and keeps one month's additional supply as a buffer. In some periods the size of the buffer stock changes but this has never been because of changes in the cost of carrying inventory.

In a large food firm, changes in the market rate of interest play no part in the control of inventory. The operating manager responsible for inventory control (who is judged on the basis of his divisional profit) is charged a flat 6% for the money he uses, a rate which has not been changed for 30 years.

A retail chain store reported that if ever inventory limits are set for departments they are phrased in terms of the number of weeks supply of an item which the department is allowed to keep on hand. The company makes no computation of the cost of carrying inventory and pointed out: "Having regard to our continuous, strong and organized drive to keep inventories to a minimum, interest rates are not a factor in our decisions".

A primary metal producing firm indicated that the desired size of finished goods inventories is set as a result of a top management decision. Once the desired level of production had been set by top management, the operating staff set the inventory levels of raw materials required to service the chosen production level. These decisions are made in part on the basis of a discounted cash flow analysis of the relative direct costs of producing at a steady rate and maintaining large and fluctuating inventories, or maintaining a more variable level of production and a lower average

level of inventory. Throughout these inventory and operating level decisions, which are essential to the company's operations, there is no explicit consideration given to changes in the costs of external borrowing.

A manufacturing firm reported that inventory levels are adequate only to maintain the flow of production, in most items amounting to no more than a day's or a few days' production. Insurance against a failure of continuous supply of materials and parts is provided by arranging for alternative sources. The costs of carrying inventory are considerable (handling, storage space and capital employed) but they are not measured. No consideration is given to the cost of funds.

Officials of a large firm with \$90 million of inventory stated that high interest rates acted as a spur inducing the company to keep inventory levels as low as possible, but denied that changes in interest rates caused any change in their view of the most desirable inventory level to be maintained. One reason for this is the apparently incalculable nature of the increase in the value of their product arising from longer periods of storage.

A manufacturing company which stated that interest rates are not explicitly considered when inventory levels are set went on to say: 'If we think there is going to be a period of restricted credit, which will affect sales, we will attempt to cut our inventory'.

The vice-president of a manufacturing firm said that his company's inventory carrying costs figure was approximately 16% per annum. It was company practice to indicate to the operating departments that the inventory carrying figure is approximately 20% per annum. Neither of these rates is altered when market rates of interest change. The impression was given that the producing departments are made aware only of the need to keep inventory low, and not of any changes that may take place in financial markets.

The firms described above, and all but a very few of the whole group of firms with assets over \$90 million, do not take account of changes in interest rates when setting inventory target levels. In the two cases studied where short run changes in interest rates find their way into inventory level calculations (the current bank lending rates is used), the executives interviewed could not think of any situations where past changes in interest rates had been large enough to swing an inventory decision. Several of the largest firms have adopted inventory con-

trol systems in the past decade employing electronic computers in the setting of inventory levels. In some cases the executives interviewed were aware of the existence of the control systems, but not of the precise nature of the data used in the inventory level calculations. In those cases where they were familiar with the system, the computer programme either did not involve a specific interest rate, or used one which represented an average cost of funds which was not subject to alteration with movements in market rates of interest.

It is therefore quite clear from the Commission's survey that the largest firms do not explicitly consider short run changes in interest rates when setting inventory levels. The explanations of this ignoring of market rates of interest are generally the same as those considered in Chapter VI for the use of arbitrary interest rates or relatively fixed interest rates in the calculation of the profitability of capital expenditures. In addition, there is apparently an important respect in which the inventory investment decision is different from the capital expenditure decision in a way that makes interest rates less relevant for inventory level-setting. Many executives spoke of the cost of carrying inventory as being important costs, and gave indications that there was a continual awareness of the opportunity cost of funds tied up in inventories. But in order that changes in interest rates have an effect on the inventory target levels, it is necessary not only that the costs of carrying inventory be known, but that they be in some sense balanced against the gains in revenue from carrying more inventory or the loss of revenue from carrying less. If such a balancing cannot be made, there are no grounds for deciding what changes in inventory target levels could or should be made when interest rates change by any given amount. It was the contention of almost all the executives interviewed that the benefits of carrying different amounts of inventory were not quantifiable in such a way as to make possible a balancing of costs and revenues. Except for certain raw material stocks whose levels depend upon anticipated shortages or price level shifts, the inventories of manufacturers were said in most part to be dictated by the technological require-

ments of the production process. The trading concerns, on the other hand, were aware of a greater freedom of choice in setting inventory levels but emphasized that the adequacy of most inventories could be measured precisely only in relation to turnover.

The foregoing analysis of the role of interest rates in inventory decisions is derived from interviews with large firms. The results of the mail survey of firms under \$90 million in assets initially appeared to indicate a much higher response of inventories to changes in credit conditions. 12.9% of all firms with assets under \$90 million completing questionnaires stated that changes in interest rates and availability of credit had in whole or in part been responsible for inventory reduction in 1959-60, while 18.6% of the same firms indicated that they had reduced inventories during at least one of the three periods of credit restraint since 1954. For the various size groups the indicated response was roughly similar in 1956 and 1959, but significantly greater for the smaller firms in 1962. Of the firms completing the questionnaire indicating inventory changes in any of the three periods, 100 were subsequently interviewed. The interview evidence indicated that changes in credit conditions had been responsible for inventory level changes in only 25 of these cases. When firms giving positive responses were asked what their inventory policy would have been had interest rates been lower and credit more readily available, most replied to the effect that prudent management would have led to a reduction of inventories even if credit conditions had been much easier. The following examples indicate the typical explanations received in follow-up interviews which led to a re-interpretation of the questionnaire answers.

An executive of a retail store which indicated a reduction in inventories due in whole or in part to changes in credit conditions in 1962 was subsequently interviewed. He explained that in the last half of 1961 the company's inventory began to "get out of hand". The pressure has been on since, but the timing and extent of the "push" on inventories was not affected by the general state of credit conditions. Suppliers had not requested that inventories be reduced.

The General Manager of a plumbing and heating firm answered "yes" to the inventory reduction

question for all of the three periods of restraint. In subsequent questioning he pointed out that the company is continually working to keep its inventory free of leftover items. He was not sure that a larger inventory would increase net income enough to pay the company's costs. Inventory policy does not change with changes in credit conditions.

The President of an automotive supplies company indicated on his questionnaire that inventories had been reduced in 1959-60 and 1962. His questionnaire also showed a large bank loan made in 1959-60. In the subsequent interview he pointed out that the bank asked the company to keep inventories low when the large loan was outstanding. Inventories were cut in 1959 and pressure has been kept on them continuously since. The company's inventories are only of parts which are being made to order so that no risk is involved.

The Treasurer of a metal working shop had indicated a reduction in inventories in all three periods of restraint. In the subsequent interview he pointed out that there were excessive inventories built up in the late 1940's as a reaction to wartime shortages. He said that inventory pressures follow stock taking and changes in sales and profits. He argued that monetary policy "should influence our inventory policy but in fact it does not". In his view tighter credit should affect inventory policy because it is likely to cause changes in sales.

The President of a manufacturing company indicated that reductions in inventories had occurred in 1959-60 and in mid-1962 in whole or in part in response to changes in credit conditions. In the subsequent interview he pointed out that inventories had come down regularly over the past three years. The cuts had coincided in part with the period of tight bank credit. The interviewer judged that the answer for 1959 was verified but not that for 1962.

The Secretary-Treasurer of a manufacturing company indicated a reduction in inventories in 1962 in response to changes in interest rates and availability of credit in mid-1962. When questioned directly he pointed out that in 1961 and through the spring of 1962 the company was re-organized. Management consultants showed how inventory could be reduced and the cuts were made. The efforts were started in the early part of 1962 and reductions totalling \$100,000 were effected before the end of the year.

The Secretary-Treasurer of a chemical company indicated on the company's questionnaire that inventories had been reduced in 1962 in response to changes in credit conditions. In the interview which followed he pointed out that there had been

a large seasonal carryover of inventories in 1961 and the decision was made to cut inventories. One product which had been bought in bulk before the end of navigation in 1961 was sold during 1962, thus causing a large reduction in inventories in 1962. These inventory reductions were a matter of company policy rather than a reflection of credit conditions in Canada. He pointed out that he always "hammers" inventory managers to keep stocks low and the vigour with which he "hammers" does not vary with changes in credit conditions.

The Treasurer of a pulp and paper company indicated on the company's questionnaire that inventories had been reduced in 1959-60 and 1962 in response to changes in credit conditions. When questioned directly he pointed out that much of the company's business is for special order and inventories are thus irrelevant. Raw materials are kept "as low as possible, consistent with the flow of production". Far more can be gained from more efficient handling than from saving on the cost of funds. Sales service is the important determinant. He added, "I blitz inventories once a year, come hell or high water".

Other firms which had given a positive response to the inventory question turned out on closer inquiry to have made reductions in response to changes in credit conditions. These responses fell into two broad categories. Some firms had reduced their inventories as a direct result of higher interest rates and limitations on the availability of credit. Other firms changed their inventories in response to changes in anticipated demand related to the change in credit conditions or were affected by changes in the general "climate" of business they expected to be brought about by a rise in interest rates or limitations on the availability of credit.

The following examples indicate the nature of the response of firms directly affected by credit restraint. It will be noticed that in some cases changes in credit conditions were only one element in the forces at work.

The Treasurer of an engineering firm reported that in 1956-57 and in 1962 they had been approached by their bankers to reduce their line of credit and that the company had adjusted by cutting their inventory. The President disagreed that the banks had in fact determined company policy and suggested that an excess inventory problem had developed and a reduction would have been undertaken anyway.

A firm in the communications industry wrote as follows: "A decision to withdraw from certain activities, thereby reducing inventories, was made in 1959-60 to free capital for a new venture.... because of the difficulties of raising money at reasonable rates. The process of review of capital employed has been continuous throughout the three periods (of restraint), however, because of the high level of the company's borrowings and the attendant high charge for interest. We are particularly conscious of the cost of marginal money employed."

The President of an electrical goods manufacturing company reported that inventories were cut in early 1960 from \$4 million to \$3.2 million. This was in part because business had been slack but also because there were rumours about that bank lines of credit might be reduced or that at least they would not be increased. The reduction was in old stocks which were cleaned out and in some cases scrapped. Other reductions were made in the number of lines carried. In 1961 business volume increased, credit became easier and inventories grew once again to their earlier size and more.

A manufacturing and sub-contracting firm which had indicated a reduction in inventories due to changes in credit conditions, explained their position in the following terms. When supply conditions are good the company keeps low inventories. But some items must be manufactured and parts carried on hand. In tight money periods, the base inventory is maintained but the company will operate "very dangerously" not buying anything unless it absolutely is necessary. There are certain essential cash drains, and these must be paid before inventories can be built up or payables paid off.

The President of a lighting equipment firm indicated a reduction of inventories in all three periods of restraint. In subsequent questioning he pointed out that interest rates are included in the calculations of the cost of inventory at prime rate but they are not varied for changes in prime rate of less than one per cent.

A company which manufactures cheese indicated that in their business they must carry substantial inventories. They watch the cost of carrying inventories very closely. Interest is charged at the current prime rate and adjusted for each $\frac{1}{2}$ of 1% movement in that rate. In broad terms, however, the level of their inventories is a function of the previous year's sales which are projected a year ahead and revised quarterly.

The General Manager of a small manufacturing company reported that they had varied their inven-

tries in response to credit conditions. He pointed out that there is about "\$10,000 of flex in inventories". The cost of using this "flex" is substantial but incalculable.

The Secretary of a clothing company indicated on the firm's questionnaire that inventories have been under constant pressure but that the bank's request in June, 1962 for the company to keep its loan at a reduced figure was undoubtedly responsible for some of the vigour of the current (1962) attack on inventories. Similar pressures were applied to current expenses. In the earlier periods of restraint the company's cash position was stronger and the bank's pressure less strong.

A manufacturer who had reported a reduction in inventories in all three periods pointed out that inventories are restricted as much as possible. He added, "however, if we don't have enough inventory to provide service our customers will go to the United States. Customers shy away from suppliers who can't keep adequate inventories." The interviewer concluded that this was a case of a firm which appeared to be chronically short of capital. They have been unable to repay directors' loans and had borrowed from suppliers. There did, however, appear to be additional periodic pressure on inventories associated with credit restraint and the answers were judged to be accurate.

The Treasurer of an oil company reported on the company's questionnaire that inventories had been reduced in all three periods. In the subsequent interview it appeared that changes had indeed taken place in all three periods of restraint. The inventories in question were made up of surface equipment and used pipe. When interest rates were high the company was more anxious to dispose of this old equipment while they tended to hold on to it when financial pressures were slight.

An importing company reported that they curtailed inventories in all three periods of credit restraint. They said that they could reduce about 20% and found that they needed to reduce in each period in an effort to conserve the credit available to them. They reduced inventories by ordering more often but said that they were limits to what could be done as most of their suppliers were in England and shipments must be arranged some time in advance.

The Executive Vice President of a large processing firm indicated on the company's questionnaire that a reduction in inventories had occurred in 1962 in response to the change in credit conditions in that year. In the subsequent interview he pointed out that the company *instinctively* responds to rising interest rates by cutting inventories where possible. The steps taken in 1962

would result in cuts of \$500,000 to \$1 million. Their line of credit is ample and they have never been approached to cut their line of credit. In fact one bank in an attempt to get some of the company's business voluntarily established a \$10 million line of credit which has never been used.

The Vice President of a small manufacturing company gave an explanation of his positive answers to the inventory reduction question in the following terms. The company had had a ceiling put on its line of credit in periods of tight money and had made inventory adjustments "in sympathy". The net effect was judged to be small.

The above examples all refer to firms which reported reductions in their inventories as a direct result of credit restraint. Other firms were influenced in their inventory decisions by the anticipated effects on their customers or on the economy as a whole of changes in credit conditions. The following examples indicate the nature of this kind of reaction.

The administrative manager of a small drug company reported a reduction in inventories in 1962. Their inventory was cut from \$250,000 to \$200,000 between June and August 1962. These were described as the result of "scare effects" as the moves were made by persons not usually involved in obtaining or managing finances.

A garment manufacturer reported on his questionnaire a reduction in inventories in all three periods of restraint. He opened the interview by remarking "we get so many forms in here we just fill them in without worrying too much about what we say". On his inventory policy he had the following to say. "Our general attitude is somewhat casual. When money gets tight we tend to look closely at them and can cut as much as 10% out of work in progress and finished goods inventories." The interviewer judged that declines had occurred primarily as a result of the psychological effects of credit restraint.

The Treasurer of a large manufacturing company described the company's inventory target levels as being set in accordance with turnover standards and thus directly related to anticipated sales. The cost of funds is not a factor. If however, "we think there is going to be a period of restrictive credit which will affect sales, we will attempt to cut inventories." Although 1959 had been a good year, and 1960 was expected on general grounds to be as good again, the credit restriction in the summer of 1959 were considered likely (particularly the restriction on the bank borrowing of finance companies) to affect 1960 sales seriously.

Consequently, it was decided to cut inventories, and about \$6 million was cut out of inventories between December 1959 and March 1960. On the whole the company's view of the effect of the restriction on sales proved to be mistaken, and it was necessary to work to full capacity during the late spring and summer of 1960 in order to satisfy demand. The Treasurer suggested that a cut of \$3 million would have been more appropriate.

The Secretary and Treasurer of a large wood products firm explained his positive answers to the inventory reduction question in the following terms. "As money becomes tight, it probably hits our customers, when banks ask them to cut inventories. The customers delay payments on their accounts payable in their effort to increase cash flow. We try not to extend extra credit and we try also to reduce our own inventories."

The examples cited above indicate that in a number of cases inventories are responsive to credit restraint. Such cases are exceptions rather than the general rule and most small companies follow the same practices as the larger firms analyzed earlier. The following examples are typical.

A mining company reported that they normally carry about \$500,000 in inventories, mostly consisting of raw materials. If inventories double production is cut, but on the whole inventories are a function of sales rather than any costs associated with carrying them. Interest costs do not influence inventory decisions although inventories in excess of \$500,000 involve the use of bank credit.

A construction materials firm reported that the company had used a mechanical inventory control system since 1958 designed to alter inventories in response to changes in sales prospects. The data processing for this control is not completely self-regulating but nearly so. In preparing the computer's programme the following steps were taken:

- (1) A careful analysis was made of sales over the last five years with all special sales eliminated.
- (2) The trend in sales was reviewed.
- (3) The figures thus produced were reviewed by the company's regional managers who are responsible for inventories.

The programme automatically indicates how much and when to produce. The data used in the programme are adjusted monthly on the basis of the sales forecast. It is company policy to have 30 days supply on hand and production is geared to take care of seasonal fluctuations in sales. The fact

that it takes 30 days from raw material to finished product is reflected in the programme. Interest costs are not included in the programme and the Treasurer concluded that a "fairly substantial" rise in interest rates would be necessary before changes were made in existing inventory policy. The introduction of the new system led to a significant reduction in inventories.

A manufacturer of tires and tubes reported that the company's inventory policy could be described as a "flying by the seat of the pants" operation. No interest costs are imputed to the carrying of inventories and they are adjusted mainly on the basis of sales projections.

An engineering company reported that inventories are adjusted monthly in response of changes in estimated sales. No interest factor is introduced into the calculation.

A clothing manufacturer reported that inventories are not adjusted in response to changes in credit conditions. The company attempts to even out production of its various operations by means of inventory accumulation and if necessary the products are disposed of at cut prices. The President argued that this procedure was preferable to cutting production since this means a loss of staff.

The Treasurer of an electronics firm pointed out that they are not normally affected by changes in bank charges in reaching decisions on inventories. He added: "we probably should be because of the size of our overdraft but the fact of the matter is that we are not".

Inventory Adjustment in Response to Credit Ease

There were no questions included in the mail questionnaire relating specifically to inventory adjustments in response to easier credit conditions in 1961 and 1962 and no supplementary comments were received in the mail survey relating to inventory expansion in response to a lowering of interest rates or increased availability of credit. This question was put in a number of the interviews, in particular to those firms which had indicated that they had made special efforts to reduce inventories in times of high interest rates and reduced availability of credit. It was found that most firms which had "inventory blitzes" or changed their inventory control procedures during a period of credit restraint found themselves as well off with the reduced inventory even when credit became more easily available. Thus many of the adjustments

were once-for-all changes not reversed in subsequent periods of lower interest rates and easier credit availability. The following examples are typical.

The Treasurer of a manufacturing company pointed out that inventory policy since the difficulties of 1959 had been devoted towards reductions, partly to reduce interest charges but mainly as a result of "stronger management".

A paint manufacturer pointed out that the company had adopted a new inventory control system. This was largely "a part of a management spruce up" but it began in 1956-57. This step was taken partly because inventories were too high in relation to sales volume and partly in an effort to save interest charges. It was indicated that enthusiasm for inventory cuts is partly the result of changes in credit conditions. During the past fiscal year the company estimates that it has saved some \$120,000 in bank interest charges and that the effect on sales of inventory cuts indicates no significant loss.

The Treasurer of a manufacturing company pointed out that their inventory control system came in in 1959 when credit became tight. Once the system had been installed there was no incentive to increase inventories when funds became easier.

The President of a utility indicated that shortage of cash in 1959 had led the company to examine inventory levels closely, and led to a reduction of 25% in the volume of materials on hand. The inventory control procedures had not been relaxed since that time although he suggested that some slight additional cuts in inventory levels might be made should the need arise.

While in most cases it was suggested that inventory levels did not respond to an easing of credit conditions, there were some executives who indicated that inventories were unintentionally allowed to build up between periods of credit tightness, and other cases where an explicit balance between carrying costs and order costs counselled an increase in inventory levels during periods of relatively low short-term interest rates.

A clothing manufacturer stated that his company varied inventories by as much as 10% (\$150,000) on response to changes in credit conditions. Since they know the difference between their normal price and the price they would have to pay a jobber for cloth if they ran short, they were in a position to assess in a rough way the cost to themselves from such a course of action.

The President of a utility said that his own attitude towards inventory control varies noticeably from time to time in accordance with changes in monetary conditions. When funds are tight he takes a special interest in monthly inventory control figures and quarterly inventory statement. This pressure is relaxed somewhat during periods of easier credit, thus allowing a tightening of the company's inventory control procedures at the beginning of each period of credit restrictions. He pointed out that the restrictive measures of June, 1962 which had taken place ten days prior to the interview would likely lead to a critical evaluation of inventory levels at the July management meeting.

Conclusion

As in the case of expenditure on plant and equipment the pattern which emerges is a mixed one. The evidence summarized above includes reactions of a widely differing kind. In general, short run changes in interest rates do not play a significant role in altering inventory policy but there are a few exceptional cases where they do. Some firms respond to restrictions on the availability of credit by curtailing inventories but do not reverse this policy in subsequent periods of ease. In a few cases, however, there is a reversal when interest rates decline and funds become more readily available. In general, most firms do not anticipate a change in business conditions when money tightens or, if they do, may not take any explicit action on inventories as a result. In some cases, however, either explicit effects on customers or a general feeling that business as a whole will be affected lead to defensive reductions of inventories. As in the case of plant and equipment expenditures the question is not whether inventories are or are not affected by changes in credit conditions but rather the question of how much and when.

With the exception of a few firms in one or more periods of restraint, it appears that inventory adjustments have been quite limited in response to recent changes in credit conditions. Since we have virtually complete coverage of all firms with assets over \$90 million the responsiveness which was detected represented all that could be found for this group. Since we also have a very large sample of all firms with assets between \$5 million and \$80 million the firms which

indicated some degree of responsiveness are not representative of a vast group of unsurveyed firms but represent a high proportion of all the responsiveness which likely existed. In the case of firms with assets under \$5 million, the examples of responsiveness are representative of a much larger number of individual instances.

It is very difficult to estimate orders of magnitude in this area. As will be clear from the evidence summarized above there are a few cases, in particular the \$6 million reduction of the large manufacturing producer in the first quarter of 1960, which were stated in precise terms and dated. In other cases, it was impossible to get any firm evidence on amounts although the direction of the change appeared to be clear. In some cases it appeared that the amounts involved were very small. For the period 1959-60 it was estimated that the reductions in the last quarter of 1959 and the first two quarters of 1960 were

of the order of \$10-25 million but this is only a quantified impression of the sum over the economy of a single large item, a few smaller ones and many minor changes of unknown size. It is worth recalling that it requires a thousand cases of inventory reductions of \$10,000 to lead to a \$10 million reduction in total inventories. We did not find any single spectacular example of inventory reduction in either of the other two periods of restraint. The 1956-57 episode was sufficiently far away to dim memories and this is one reason why examples from the 1962 experience tend to predominate. There is little evidence of significant additions to inventories resulting from an easing of credit conditions but some cases have been found where a change of this kind is explicit and there are no doubt many other where relaxation of pressure led to unintentional increases.

THE LAGS IN THE EFFECTS OF MONETARY POLICY

In the earlier chapters frequent reference has been made to the time at which changes in expenditure were initiated in response to monetary policy. The main emphasis, however, has been placed on the extent of the response. In this chapter an attempt will be made to gather together some of the evidence now at hand on the lags in the effects of monetary policy.

A recognition of the problems of lags in the response of the economy to changes in monetary or any other policy is by no means new. For example, in a passage in the *Treatise on Money* (1930) in which he expressed considerable optimism about the response of the economy to changes in monetary policy, Keynes specifically drew attention to this issue.

"Willingness to invest more or less in manufacturing plant is not likely to be very sensitive to small changes in bank rate. But the quantity of new fixed capital required by industry is relatively trifling even at the best times, and is not a big factor in the situation. Almost the whole capital of the world is represented by buildings, transport and public utilities; and the sensitiveness of these activities even to small changes in the long-term rate of interest, *though with an appreciable time lag*, is surely considerable.

(J.M. Keynes, *Treatise on Money*, VII, p. 364. Our italics)

For much of the period following 1930 there was only a limited interest in the problem of lags in monetary policy. This was understandable. During the depressed 'thirties, many leading countries adopted policies of cheap money and retained these policies throughout the remainder of the nineteen-thirties and nineteen-forties. With the policy instruments set in one direction, the lags in the response to monetary policy were

not a problem. For example, the high unemployment existing in the Canadian economy in 1939 could not be imputed to tight money in 1939, or for that matter to tight money in any of the preceding four or five years, but rather to the fact that the degree of credit ease which had existed for some years was not sufficiently powerful in its effects to provide a major stimulus to the economy. Similarly, the problem in the early post-war years was not the result of a lag in the response to credit restraint, but rather that credit restraint had not been applied at all. Indeed, it was not until a flexible monetary policy was restored in the nineteen-fifties that the setting was provided in which the problems of the lags in monetary policy could become important. With reversals of policy taking place every two or three years, it became a matter of considerable importance whether changes in monetary policy came soon or late after a change in economic conditions, and whether the response of expenditure and employment came soon or late after a change in monetary policy. If the authorities were slow to act and the economy slow to respond, changes in monetary policy could have the effect of widening the range over which the economy fluctuated. It therefore became a matter of some urgency to find out how early in a period of expansion or contraction the authorities could judge the likely developments in economic conditions and take action, and how long it took expenditure and employment to respond to such changes in policy.

We shall be concerned here with lags in the effects of monetary policy following decisions taken by the authorities. In the Commission's

Report an analysis is made of the problem of timing encountered by the authorities. There the question is raised as to whether actions by the authorities, which after the event turn out to have been taken late, are best described as resulting from a "lag" in the response of the authorities to past changes in the economy, or whether delay can be more correctly attributed to uncertainty about future developments. We shall begin by examining the lags between changes in the investment plans of corporations and resulting changes in income and employment.

There are a number of ways of obtaining information about the length of the lags between change in investment plans and actual outlays. One obvious way is to ask firms to estimate the time normally taken to carry out the various steps in the process of investment. For example, in the case of investment in industrial plant, firms can be asked how long it takes from the start of the drawing of plans to the start of construction, or how long it takes from the first decision to build to the start of construction, and how long it takes from the start of construction to completion. Similar questions can be asked relating to the purchase of machinery and its production or to the purchase and production of any asset. The following are some examples of the kind of information which was obtained from interviews.

A retailer described the timetable for the construction of a large retail outlet as follows:

1. January, 19A — Preliminary decision made to build in a particular town.
2. May, 19A — Approval given to the expenditures required, on the basis of preliminary engineering forecasts.
3. September, 19A — Initial drawings prepared and approved.
4. May, 19B — Construction started.
5. March, 19C — Project completed and opened.

It was suggested that the planning and engineering time on this project could have been reduced by about six months if there had been any particular reason for doing so. Any further reduction in the planning time or in the construction period, for a store of this size, would involve substantial extra costs. Two years is regarded as the minimum time required for the gestation and construction of a major project.

The time schedule of decisions and outlays for the annual capital expenditures of a large pipeline operator is as follows:

- July, 19A — Sales estimates for 19C prepared.
- September, 19A — Capital cost estimates prepared and letters of intent sent to manufacturers of equipment. At this time the equipment manufacturers start to make equipment in anticipation of the orders they hope to get.
- December, 19A — Construction specifications published and sent to suppliers. Approval of sales estimates and prices sought from the regulatory authority.
- January, 19B — Equipment contracts signed.
- January — April, 19B — Construction design completed.
- April, 19B — Bids received and contracts awarded for construction.
- April, 19B — Regulatory authority's approval obtained for construction plans and terms of sale.
- May, 19B — On site construction starts.
- October, 19B — Construction completed and facilities available for use.

In the fall of year 19A, one firm's economists make an appraisal of the economic outlook, and make a general estimate of the capacity required to meet the estimated demand in year 19C. These forecasts are subject to approval at a higher level, and are then forwarded to the separate departments for the estimation of the corresponding 19C expenditures for each department. These detailed estimates would be prepared by June of 19B and approved by senior management. Board approval would follow in October or November of 19B. At the beginning of 19C, a priority list of the proposed capital expenditures would be drawn up, the most favourable expenditures being undertaken immediately. The remainder of the projects would not be undertaken until mid-year approval was granted. In this way the company leaves itself some flexibility to adjust expenditures during the year. Thus, although the amount of capital expenditures to be made in the last half of 19C is established in principle in the fall of 19A, implying a long lag, there is a considerable amount of flexibility left in the expenditure programme for the company to make any necessary adjustments indicated by changes in sales expectations.

An official in a large oil company estimated that it takes six months to plan and eighteen months to build a new refinery; and six months to plan and six to build a gas processing plant; while service stations of the simpler types can be built with little planning and a two-month construction period.

Following a datable increase in sales expectations, another oil company took six months to design

and approve an addition to capacity, and nine months to construct the facilities. This was thought to be a typical lag pattern for normal projects, with more complex projects such as an entire new refinery taking substantially longer.

A distillery executive suggested that their projects take six months in the planning and decision stages and six months in construction, with certain variations depending on the type of construction.

A pulp and paper manufacturer gave an example of the kind of lags in his industry between an apparent change in business conditions and the construction of new facilities. In September of one year, the sales expectations for one of the company's products increased considerably. By February of the following year, plans had been drawn up and an expenditure of three million had been approved. The construction took a further 12-14 months. The construction time was less for this project than in many other cases because it involved the expansion of old facilities rather than the construction of a completely new plant. There is more uniformity in the length of time which passes between a change in business conditions and the first major expenditures on new facilities. The decision and planning period is usually between six and nine months in length.

The above examples indicate clearly that ⁴¹ time lags between spending decisions and actual outlays vary widely depending upon the type of project. If such information is to be of use in estimating a lag pattern suitable for describing aggregate investment, one must discover not only the typical time pattern of outlays for the various types of project, but also find a reliable measure of the relative importance of various types of projects in the aggregate investment of particular years.

Alternative ways of aggregating this kind of information are illustrated by the work of Thomas Mayer ("The Inflexibility of Monetary Policy", *The Review of Economics and Statistics*, 1958), and Shirley Almon ("The Distributed Lag between Capital Appropriations and Expenditures", Unpublished Paper). Mayer gathered information by questionnaire on the typical lags in investment expenditure. Miss Almon based her analysis entirely on aggregate data for appropriations and capital outlays. She examined quarterly data (obtained by the National Industrial Conference Board from 60% of the 1000 largest manufacturing firms in the United States) of appropriations and

capital outlays to see which time pattern of outlays provided the best fit to the appropriations data. The appropriations in a particular quarter are taken to represent decisions to spend, and the best-fitting distribution of outlays over the following quarters is taken to be the typical lag pattern. In view of the doubtful nature of much of the quarterly appropriations and outlay data, her results must be treated with some care, but they are nevertheless of considerable interest. For all manufacturing, she suggests that 15% of appropriations are spent during the first half year, 45% in a year, 77% during the first six quarters and 92% within two years.

Both the direct estimate and statistical inference approaches to lags in the investment process establish some general bench marks which are very helpful, and it is hoped that further work along these lines will go forward. A major shortcoming of this kind of information for assessing the effects of monetary policy is that the lag pattern which emerges does not relate specifically to changes which arise from monetary policy. Since in such cases firms are accommodating themselves to a change in external conditions, adjustments in plans and outlays tend to be made as soon as possible after the change in external conditions. Moreover, the particular projects affected are unlikely to form a representative sample of all projects and averages derived for the whole of investment may well be somewhat misleading when applied to the part of investment affected by changes in credit conditions. We therefore concentrated on determining as accurately as possible how long the lags had been for changes in expenditure which had in fact occurred in response to changes in monetary and debt policies. The following examples illustrate the kind of information obtained.

A metal products firm started in mid-1954 to plan a \$5 million expansion. By May, 1956 they had reached the stage of arranging financing. At a Board meeting that month, it was decided on the basis of the advice of two investment dealers on the Board that the money could not be currently raised on the market. The expansion was postponed. The construction would have begun in mid-1956 and would have been completed in two years.

The Board of Directors of a paper company had tentatively approved a plan to purchase an addi-

tional paper-making machine, but the sharp rise in interest rates in 1959 "made the cost prohibitive". In 1962 the project came up for consideration again but the directors were concerned over the anticipated interest rate (6½%) on some \$4-\$5 million which they would have to borrow. It was estimated that the employment effects would extend over a period of two-and-a-half years. Part of the work on new buildings could have been carried out within a few months, but the construction of the machine would have been spread over a much longer period and might well have taken place in another country.

A company which approached its bank in July, 1962 for funds to construct some previously postponed warehouses was told that a further delay would be necessary "in view of the austerity programme." These warehouses would have been constructed in the summer and fall of 1962.

In early 1961, a construction materials company decided to double the capacity of one of its regional plants. In May, 1962 plans were publicly announced for a \$6-\$8 million extension to start in mid-1962. The high interest rates and poor conditions in equity markets in June, 1962 led the firm to postpone construction for at least a year. It was estimated that the construction would have been spread over a period of 14-18 months.

A small wood working firm might have spent \$1000 more on modernization during the calendar year 1959 if additional bank credit had been available during the latter half of the year.

A forest products firm revised its 1962 budget in July, 1962 and deferred a \$300,000 modernization project for nine months and \$150,000 of maintenance expenditures for a year or more. The outlays would otherwise have taken place in the last half of 1962.

A construction firm postponed the purchase of \$200,000 of new equipment when it was unable to get bank accommodation in the late summer of 1959. The equipment would have been purchased in the fall and winter of 1959.

A machinery firm decided in the fall of 1959 that credit restraint would reduce demand for their product and postponed a \$300,000 extension which would have been completed by the spring of 1960.

A metal products firm found credit tight in 1959-60 and postponed possibly \$20,000 of machinery purchases from 1959 and 1960 until 1961.

A small machinery firm was in financial difficulties in 1959. Their bank withdrew support completely in June, 1959, and the company went into receivership. Some capital expenditures would have been made in the latter half of the year had further credit been obtained.

A small manufacturing firm hoped to spend \$75-\$100,000 on modernization during the calendar year 1962. The "tight money talk" of May and June, 1962 discouraged them from even applying for the necessary loan from their bank.

In mid-1960, a utility shifted \$2-\$2½ million of expenditure on distribution facilities from the period September, 1960 to September, 1962 to a subsequent period not starting before September, 1962. Credit conditions played a small part in its decision.

A utility made several changes in June, 1962 in the financing and spending plans which had previously been approved as part of the 1962 budget. The aggregate effect of all the changes was to decrease capital expenditures in 1962 by \$550,000, by \$750,000 in 1963, and increase outlays by \$625 million in 1964 and \$675 million in 1965.

A small manufacturing company was planning a \$90-\$100,000 extension to be constructed in the fall of 1959. The firm's bankers showed reluctance in September, 1959 to advance the funds and the project was shelved.

A medium-sized power utility had approved in the fall of 1958 expenditures during 1959 of \$250,000 on 6-8 smaller projects for system improvement. In mid-1959, the revenue estimates for the latter half of the year were revised downwards and the firm appeared to be approaching its borrowing limit. The \$250,000 of expenditure was shifted over into the 1960 and 1961 budgets.

A construction materials firm postponed the purchase of cars and trucks in 1962. The amount involved was around \$80-\$100,000 and the purchases would have been made in the 1962 model year.

If we had found many examples of the effects of credit restraint in the three periods, and had been able to date accurately both the direct and indirect effects on employment and output, these data could have been used to measure with some precision the lags in the effects on expenditure which are directly relevant. It is, however, very difficult to generalize from the limited number of cases with which we have had to work, and neither the amount nor the accuracy of the data permit any meaningful comparison of the average lag characteristic of each period of restraint. Our evidence, for what it is worth, indicates that the effects of credit restraint are spread over a wide period, ranging from a few weeks to several years, and suggests that at least six to

nine months is probably required to encompass a major proportion of the effects on output and employment.

The problems raised by the lags between decisions and expenditures are in part dependent upon the extent to which these lags must be added to other lags, in particular added to lags between action on the part of the authorities and the response of the financial system. As pointed out in the Commission's Report, the lags within the financial system depend on the decisiveness with which the authorities act. If, as at the time of the exchange crisis of 1962, they act with great vigour, the lag between an initiative on the part of the authorities and a major change in credit conditions is very short indeed. If, on the other hand, the authorities choose to act gradually, a period of 6-9 months or more may elapse before there has been a major increase in interest rates or noticeable restraints on the availability of credit. This would not raise a serious problem of timing if it could be expected that the initial steps in the direction of credit restraint led immediately to changes in expenditure decisions and consequential effects in succeeding periods. If, however, it is the case that the early months of a change in monetary policy in the direction of restraint are ordinarily taken up in bringing the financial system to the point where it begins to exert a restraining influence on expenditure, then expenditure lags must be added to the lags within the financial system.

Our evidence on this issue should perhaps be viewed with some suspicion. In the questionnaire and in the interviews we set the stage by sketching in the periods of credit restraint, and when the timing of a particular postponement bore little relationship to the changes in credit conditions it was queried very carefully. We found little evidence, however, which suggested that the kind of minor changes in credit conditions characteristic of the early months of a period of restraint exercised any significant influence over expenditure. On the other hand, there was evidence of a clustering of effects in periods when credit conditions had been tightened considerably. We would conclude, therefore, that in many cases the lags within the financial

system and the lags in expenditure must be added to determine the likely timing of the response of corporate expenditure to changes in monetary and debt policies.

The lags in the effects of an easing of credit conditions differ in one important respect from those characteristic of credit restraint. The difference arises primarily in those cases where it is the availability of credit rather than interest rates which affects the firm's willingness to spend. When a firm faces a quantitative restriction on its borrowings, it is often under immediate pressure to conserve funds, and the response follows fairly quickly. When, on the other hand, there are significant increases in the amount of funds which a firm could borrow from its usual sources, that fact may not become quickly known to firms unless they have shortly before been aware of quantitative restrictions. Aside from this variable lag before firms become aware of a change in credit conditions it is likely that the actual lag between a change in financing plans and a change in outlays is likely to be longer in the case of ease than in the case of tightness. If a firm decides to borrow less money, then expenditure must be cut to match. If a firm decides to borrow more to finance investment expenditure, it is not under immediate pressure to spend. It is worth of note, however, that a significant proportion of the firms affected by credit ease were in fact the same firms which had been affected by prior credit restraint. In these cases, it was found that the lags between the decision to undertake a project and the actual outlays were similar to the lags associated with the postponement.

Conclusion:

We have suggested that in studying the lags in the effects of monetary policy there is something to be said for going beyond the structural characteristics of the system to study the specific lags to specific changes in policy. There are dangers in adopting this approach. There may be significant changes from period to period in the types of capital expenditure affected. This is obviously the case for the economy as a whole. The drastic changes in availability arising from the system of lending under the National Housing Act have led from

time to time to major effects on housing expenditure. Lending can change very rapidly in the area of housing and significant effects on expenditure can occur in a matter of weeks. Thus the fact that in 1957-58 changes in N.H.A. lending were part of the shift in the direction of credit ease meant that the effects of credit ease on the economy as a whole were much larger and much earlier than they would have been otherwise. Within any sector of the economy similar differences could arise, particularly if there are changes in the structure of credit conditions from one period of restraint or ease to another. If, for example, the authorities adopt policies in one period designed to curtail the availability of credit with a dampened effect on interest rates, they will probably affect a different size class of corporation and may affect different types of capital expenditure than if they had followed a policy of more general restraint.

Similarly, if there is a change in the structure and practices of the financial system, such that availability effects are reduced and interest rates play a more important role, this might be expected to have some influence on the lags which could be anticipated. There is thus no simple answer which can be expected to offer precise guidance to future policy.

This is not to say that it is useless to try to extend our present knowledge. If enough could be known about the structure of credit conditions in a particular period and enough known about the size of and lags in the effects characteristic of the sectors which would be affected by this structure of credit conditions, a judgment could be made about the timing of the aggregate effects. Something of this kind can already be done in a very rough way but fuller and more detailed knowledge is required before the existing range of uncertainty can be narrowed.

CREDIT CONDITIONS AND THE NON-RESPONDERS TO THE MAIL SURVEY

Enough has been written in the preceding chapters to indicate the limited reliance which can be placed on the replies to the mail questionnaire. With question after question, it was found that there was a tendency to indicate a positive response when a change had been made, even when that decision was quite unrelated to general changes in credit conditions. Thus shifts in financing or reductions in expenditure, which resulted from the special circumstances of the firm or the level of demand for the products of a particular industry, were reported as positive responses to general changes in the cost and availability of credit, even when they were quite independent of such general changes. Further, in a very few cases it was found that while a negative response had been given to a particular question in the mail survey, the subsequent interview questioning brought to light changes which were at least partly related to general changes in credit conditions.

If negative answers should on occasion have been positive, and positive answers should very frequently have been negative, it might appear that the mail questionnaire was of little use. As pointed out earlier, this was not the case. The mail survey brought us into touch with a sample of firms which had experienced some impact from monetary and debt policies and this permitted us to locate and interview those firms which were most likely to have something interesting to report. Moreover, since the negative responses to questions were in general fairly accurate, the mail survey widened the coverage of the interview programme and made it possible to draw some broadly based quantitative conclusions.

While the response rate was high for a survey of this kind, there were around 500 firms for whom a completed questionnaire had not been received. As soon as we began to draw conclusions based on the interviews and the mail survey, this group of firms became a source of embarrassment. Perhaps almost all of the firms which had failed to reply had regarded the survey as irrelevant because they had been entirely unaffected by changes in credit conditions. If this were the case, we were in danger of over-stating the effects of changes in credit conditions on firms with assets under \$90 million. Alternatively, perhaps a number of the non-responding firms had been so adversely affected by changes in credit conditions that they were on the verge of bankruptcy and had no time to answer questionnaires. One businessman on receiving our questionnaire wrote: "I don't believe a physician should conduct a psychological study over a patient who is bleeding to death..." Perhaps many of the firms which had failed to reply were in this position, and we might therefore be underestimating the effects on firms in the size groups which were incompletely covered by interviews. Idle speculation of this kind clearly led nowhere, but since these firms had already failed to respond to the original questionnaire and two follow-up letters, there was little point in further efforts along that line. The decision was taken to contact a number of these firms by telephone and either arrange for a personal interview or gather as much information as possible on the telephone. For reasons of economy, this was done for most non-responding firms in Toronto, Montreal and Vancouver

and for a few firms in the areas neighbouring these metropolitan areas.

It turned out that some firms had indeed failed to reply to the questionnaire because they had been unaffected and felt that little purpose would be served by responding.

The Secretary-Treasurer of a manufacturing company jointly owned by companies in the United Kingdom and Canada, responded as follows: "I remember it. I did not throw it out. Actually, we have not borrowed from a bank in years and I did not think we could contribute to your survey." The company had not carried out much capital expenditure in recent years, but they did add to plant and equipment in 1956-57 and 1959. The firm has not been affected directly by tight money but "tight money has very definitely reduced the volume of business." Interest rates have never had any direct effect on the level of inventory. In recent years the company has had a substantial portfolio of securities. Of a total of over a million dollars, in December, 1962, more than half was invested in short-term governments, about a fifth in medium and long-term governments extending from 1968-77, about a tenth in preferred shares, and a tenth on deposit with a trust company.

The Treasurer of a wholesaling company was contacted by telephone and replied: "I don't seem to remember seeing it." They later sent forward a completed questionnaire, pointing out that as a wholesaler their capital expenditures were of a minor nature and their behaviour had been unaffected by credit conditions.

The owner of a small company which acted as a manufacturers' agent responded as follows: "Yes, I remember seeing it, but (1) we are too small; (2) we don't owe any money; and (3) we don't borrow from the bank." He pointed out that they do not carry any stock and employ only two people. They have their own money and keep enough cash on hand. They had never been affected by credit conditions.

The owner of a customs brokerage firm replied to a telephone query in the following terms: "I turned this over to my auditor. I don't do very much of this technical end of it." The company has no warehouse, no merchandise and no equipment. The fixed assets are limited to office furniture. The firm represents different importers, pays the duty and sends a bill for its services. They borrow from the banks but they are bonded by the Government and are responsible for any commitment. They never encounter any difficulty with the bank since the bank is well protected.

Other firms had not been entirely unaffected but did not feel that the questionnaire was well designed for their company.

The President of an automotive sales firm said that he felt that "the questionnaire was designed for big business." He added "We didn't think our experience was relevant." It is a small, privately-owned company which uses bank funds to carry inventories. They found their sales limited in 1959 but they didn't change their capital expenditures. Their inventories were reduced because of the lower sales but not because they could not obtain funds.

The President of a British-owned subsidiary in the machinery industry said: "I remember seeing it. The reason for not replying is that we are a small company. We have had growing pains. The accountant is so busy he does not know which way is up. We have had a couple of other survey things he has not had time to do." He pointed out that their parent company has been in a good position to borrow money in England and there has therefore been little need to borrow money at this end. The only influence of tight money might have been psychological. Credit conditions exercise a "subtle influence". The parent may feel that the Canadian company should hold in when money is tight. The President was not able to give any specific examples of this effect. He did say, however, that the company had noticed a definite effect on trade credit. In 1959 they had their worst year for bankruptcy. The parent company extended terms depending on the Canadian company's needs.

The Vice-President of an American-owned electronics manufacturing firm in answer to a question on their failure to respond to the survey, said: "We wondered why on earth you would single us out. We have ten employees and are struggling to get by. This was one straw too many -- D.B.S. drives us mad." They have only been going for a few years. When asked about tight money in 1962 he said "We practically went under". Sales were slow, credit was tight, and money was slow coming in. They bought parts from their parent and this tidied them over. They have not approached the Industrial Development Bank as yet but they are thinking of doing so.

A grain broker who had been sent a questionnaire and had not replied, said: "In our case we do not qualify for a reply. We are not borrowing any money or granting any credit. I looked over the questions and they are so far over our head.."

The Secretary Treasurer of an American-owned canning company said: "I didn't feel that we had anything to contribute. We are owned and operated from the U.S. Tight money has been no problem. They guaranteed our borrowing and changes in Canadian monetary policy did not affect us." They are owned by a very wealthy company and the only effect they have noticed of monetary policy is that when the prime rate went to 6% the American

parent said they had idle money in the U.S. and sent it up without interest. Their accounts receivable do not fluctuate to any measurable extent.

An executive of a small construction materials firm said: "We didn't think our information would be of use. We are a private company with no outside financing." They have carried out capital projects in the last few years and have never postponed because of credit conditions. They have never altered inventories in response to credit conditions. They very seldom borrow from the bank. They have noticed that in the last year or two it has been more difficult to collect from creditors and up to a point they are prepared to help them.

The Comptroller of a retail distribution chain, when asked what had happened to their questionnaire, said: "We have used banking facilities to such a small extent that a number of questions could not be answered — practically nothing applies." He went on to point out that retained profits have provided the funds they have required for expansion. They have tripled their volume in the last twelve years to around \$3 million. They have not been affected by bank credit, although they do discount paper at the bank. In deciding the level of inventories, they work on an inventory turn ratio and expect at least four turns a year. The cost of money was said not to influence them to any great extent. They do not hoard merchandise, and adopt a "business point of view rather than cost of money."

Some firms which failed to reply to the mail questionnaire wrote to say that they had merged, discontinued operations, or gone bankrupt and were not in a position to supply information. In one case, the bankruptcy was attributed to the state of credit conditions but on closer examination this turned out to be a doubtful case. It is quite possible that some of the other cases for which no detailed information could be obtained would fall into the category of firms which had failed because of general limitations on the availability of credit.

The Chairman of the Board of a development company wrote: "Please be advised that the said company ——— is presently under the Creditors Arrangement Act. We trust that you will concur that in view of this situation, the questions herein are not particularly relevant and the questionnaire is returned herewith."

A letter received on December 10, 1962 from a firm in a resource industry, read in part as follows: "——— was liquidated on July 31 of this year. Much of the information requested is not readily available."

Responding to the French language questionnaire, a firm in Quebec wrote as follows: "We regret not being about to give you the information requested for the reason that all our forestry operations have been suspended since November, 1960. But we believe it is necessary to give you the reasons for our decision. Our company is a family business which in normal times has a turnover of about \$350,000 a year, with an investment of about \$250,000. To operate our business, we have to obtain the financial help of the chartered banks, that is to say short term loans guaranteed by the directors of the company. These loans are necessary in order to take care of the processing of the raw material until it is ready for the market in a period of 6 – 12 months.

"Since 1957, the market for sawing lumber has been subject to a decline in prices; on the other hand, there has been a continuous increase in wages, machinery, etc., and added to these difficulties the banking restrictions on credit for this type of operation; necessary credit has been almost impossible to obtain.

"We do not consider ourselves obligated to assume all the risks for this type of operation, in order to create employment from which the whole community benefits, under the present conditions of the market for sawing lumber.

"I underline these problems which have affected our company in the last few years and which surely have caused serious trouble to a number of small employers like us."

(Our translation)

The Treasurer of a mining company reported that the company had been in a state of flux. They had been in a state of receivership and now had passed into bankruptcy. He said that the withdrawal of credit in 1959 had been what led to the receivership, and when in 1962 the shareholders had tried to borrow to pay off the bondholders, money was again tight. When he described the details of the company's birth and collapse, however, it was much less clear that general credit conditions had had a great deal to do with the problem. They got into difficulties very soon after their establishment in the mid-fifties, and when they were unable to meet their interest payments in early 1959 resorted to panic financing, borrowing \$1 million at an annual rate of 25%. The company went into receivership when the bank was unwilling to renew a loan in the spring of 1959. The bank loan was repaid within a matter of months. On further reflection, the Treasurer could not recall whether any mention had been made of the state of credit conditions and didn't think that the bank's decision could be attributed to tight money. He did think, however, that if they had been able to hang on for another six months in 1959 they might have been able to stay solvent.

Many firms had failed to respond for reasons unconnected with the effect of credit conditions on the company.

An executive of a small drug company said: "I remember seeing it. I sent it on to our auditors. I was under the impression that they had answered it, but apparently they didn't." While their firm is classified as manufacturing, he pointed out that they were restricted to sales, with four men on the road and two in the office. He was doubtful that credit conditions had affected them, although in 1962 the bank was unprepared to increase their loan. They were turned down by the Industrial Development Bank who said that they would help if he were interested in building a plant or buying machinery, but otherwise not. He is now factoring his accounts and has been doing so for the last four months at 1% a month on almost all of his accounts receivable.

The owner of a small office machinery rental company said: "I do remember seeing it -- we have moved and I can't find it now." He pointed out that he was not affected by bouts of tight money but had found lack of finance a problem. They are a small company which rents typewriters and adding machines; they are privately owned and have a small bank loan. In 1962 they tried for an increase in their loan to \$4000 but were only allowed \$3450. They then made an arrangement with the companies which supply them with office equipment to pay 1/12 of the outstanding balance plus interest at 6% per annum. This replaced arrangements of 30-60-90 days formerly and has been very helpful. He also pointed out that he has found the cut-off of overdraft facilities has made bank accommodation more expensive.

The President of a retail ladies' wear company, with fifty employees in one large unit, said: "I remember seeing it -- pressure of time prevented us from answering." When asked a number of questions drawn from the questionnaire, he pointed out that they had "no bearing on this company". They have rarely been called upon to borrow and have always been able to get it when they want it. They have liquid assets to pledge with the bank. Some of these securities are long-term governments. They don't notice any particular trade credit difficulties. Their cash business is about 90% of their total business, with only 10% done on credit. They rent their premises.

An executive of a wholly-owned U.S. subsidiary engaged in the processing of furs, said: "I do recall it -- I sent it to our President in the U.S. and I guess he overlooked it." They have several hundred employees but do not carry out much capital expenditure -- around \$25,000 a year. "We never postpone capital expenditure because of credit conditions. Don't borrow from the bank but

finance ourselves ... Cheap money would not make any difference to the company." They hold no inventory except chemicals.

The President of a small retail firm in response to a telephone inquiry said: "At the time reports were sent in to us, we were semi-closed while we were changing our business. I could have filled it in, but I worked for 39 nights in a row rearranging the business." The firm found that there was too much competition in the line of ladies' wear they were selling and had converted to another line. They tried to borrow from their bank in 1963 without success. They applied to the Industrial Development Bank but could not wait for the loan to be processed. As a result, they borrowed from the immediate family and converted their stores.

The Treasurer of a company distributing fine papers and book binding supplies, when queried on the telephone about the questionnaire, replied as follows: "It went off to the accounting department. I have some recollection of it." It was pointed out that the firm had a policy of trying to cut down on inventories when credit conditions tightened. It was also noticed that when credit tightened, customers wanted extended terms. The company responds to this pressure by trying to get more credit from its suppliers. Sometimes as much as \$300-\$400,000 is obtained in this way.

The President of a private manufacturing company with around \$1 million in assets said that the questionnaire had been handed over to someone, but the company had moved offices. They had not been influenced by credit conditions. The company was sold in 1962 because the sons had gone elsewhere and there was no successor to take over.

An executive of a small, privately owned manufacturing company explained their lack of response in the following terms: "We are a small company; our office staff is overloaded and we have not the human possibility to do it. There are too many b--- statistics in Canada." The company was described as being badly undercapitalized. They switched banks in 1961 after being turned down when seeking more working capital. They have borrowed from the Industrial Development Bank and have outstanding mortgage bonds. They felt that credit conditions were easier in 1963 than in 1962 but could not be specific about any postponements which could be directly related to credit conditions. They made a private arrangement with a pension fund in 1962 for \$130,000 which was spent in that year. They had difficulty repaying the Industrial Development Bank but found the I.D.B. unwilling to allow them to postpone payments. They have found their customers much affected by the change in overdraft arrangements. It was also pointed out that "when the Bank of

Canada announces a bank rate increase, the money stops coming in from the customers."

The owner of a small textile company who is a U.S. citizen but a Canadian resident, replied to a telephone query as follows: "This company is not large enough to have a full office staff. The only way you get a report is if I sit down and complete it myself and I am too busy." He was critical of the banking system in Canada and compared it with what he judged to be the greater competitiveness of the banking system in the United States. He pointed out that the rate of interest was not important as far as business expansion was concerned, and that 1% one way or the other did not make a difference.

An executive in a ship repairing firm responded as follows when asked why a questionnaire had not been returned: "Oh yes, I started on it but we had one executive off for four months and another had a heart attack, and that is why we are so far behind." He began by pointing out that their firm had felt absolutely no effect from changes in credit conditions. They have a limit on their line of credit of \$200,000 and have never used it. Credit conditions have never influenced their decision in any shape or form. They have surplus funds which are lent to bond dealers. He did, however, point out that credit conditions had affected their customers and when there is a shortage of money people tend to hold off on repairs. Moreover, he went on to point out that collections were very slow in 1963 as compared with the past.

An executive of a wood manufacturing company, when asked why the company had not returned its questionnaire, said: "We happened to be swamped with work. One of the principals hasn't been well and we had to put aside things not of absolute urgency." The company has been using chartered bank credit under section 88 and the Industrial Development Bank for capital purposes. They felt the effects of tight money in 1957. The company changed chartered banks in that year and has more comfortable relations since. They noticed the effects in 1959 but not in 1962. In 1959 the company shelved plans to purchase timber rights and couldn't undertake propositions to finance small loggers. They missed opportunities as a consequence. It was reported that their inventories were affected in 1957 but not in 1959.

The President of a construction company said that the questionnaire had been passed on to the accountant with instructions to complete it and mail it in. He was prepared to have it completed and returned immediately. When asked how their firm had responded to periods of higher interest rates and limited availability of credit, he said

that their own arrangements had not been affected at all. "We have not required all the line of credit we have. I have a feeling that people who were in good shape did not have trouble." When, however, he was questioned on the effects of credit conditions on those purchasing the services of his company, he pointed out that they may have had two or three projects involving perhaps \$1 million each, which might have been affected. He felt that the shopping centre developer who had financing arrangements tentatively set up, might have been affected. He recalled one shopping centre under way in a Western city in 1959. The owner had to get a mortgage and finally had to pay 8½% even though he had a first-class tenant. He had to pay since the construction was already under way.

The President of a retail outlet said: "I haven't had a chance to do it. We get so many government questionnaires around here." He pointed out that their firm did not have to rely on bank credit. Their retained earnings are the major source of funds and they never use bank credit to any great extent. Accounts receivable have gone down since they instituted a series of credit checks two years ago.

An executive of a small metal manufacturing company said: "We have 80-100 hours of forms required by the D.B.S. which we have yet to fill in." This executive had begun to answer the questionnaire and had half finished it when he found a spot where some research was required and put it aside. The only effects on the firm of general credit conditions were described as indirect "if there have been any effects at all". They noticed the tightening in 1962 more than earlier and found it necessary to negotiate a line of credit. A couple of times they found it necessary to exceed their line of credit, but only for short periods. They have noticed that accounts with a tendency to slowness, particularly tradesmen dealing with consumers, are likely to be paid even more slowly when credit becomes tighter. The executive could not recall any specific cases where the company's customers had been unable to obtain funds for construction.

The comptroller of a wholly owned subsidiary answering a telephone inquiry in April, 1963, said that the questionnaire had not been returned "because of lack of time." He added: "In priority it is behind the labour survey report which was due last July. One of our troubles here is that we always have ten jobs to do at once." Their only source of long-term funds is the parent company which supplies all the funds necessary for acquiring new enterprises. The local line of bank credit and the inter-company account are used to finance current operations. Neither the availability nor the cost of local bank credit have

affected the company's expenditure. Since loans from the parent company are interest-free, there is no financial advantage to the Canadian company in using local bank credit. Their accounts receivable tend to remain a fairly constant proportion of total sales, indicating that collections do not depend upon credit conditions.

The President of a textile company, on being asked what happened to the questionnaire, replied: "We get so many similar questionnaires that we put them aside until we have more time to consider them, or they may be put straight into the wastebasket. We are too busy making hose to answer questionnaires." He reported that the firm had enjoyed favourable bank relations and had never postponed capital expenditures for lack of funds. The firm encounters some difficulty in collecting accounts. The firm itself always takes purchase discounts. Some of the firm's customers are small and unsound financially; the greater proportion are solid retailers, although all the customers take an extra 30 or 60 days to pay under the present competitive situation in the trade.

The office manager of a logging company said that the questionnaire was not completed due to the pressure of other work. The company buys all its equipment with cash, and while they have a long standing credit with the bank, they never approach the limit. The company is associated with some smaller logging contractors who have to be supported by the company. The company guarantees two lines of credit. Their accounts receivable are mainly with large firms on regular terms.

An executive of a small metal manufacturing company said that he remembered the questionnaire and the reason for not replying was that the "office was upside down recently and we are way behind in our work." They rent their plant and their equipment is limited to punch presses. They have six Canadian shareholders who own the company, and while they borrowed from a bank in their early days, the business now entirely finances itself. Their business is a seasonal one, since they manufacture a consumers' good used in winter. Their staff varies from five to thirty-five, the high coming between September and February. It is difficult to judge what inventory to hold since their sales depend on the weather. Their decision on inventories are not influenced by interest rates or credit availability.

The Comptroller of a metal manufacturing company said that the "whole management had changed over at the end of the year" and no one was available who could discuss the past experience. The company had spent little on capital equipment in the last five years and as far as

could be determined there had been no bank difficulties.

The Executive Vice-President of a real estate development company said he had seen the questionnaire and passed it on for completion. He assumed it was "probably still in the works getting done." This company does some of its own construction, but most of it is done by outside companies. They examine the feasibility of a property, arrange financing, etc. Changes of interest rates of $\frac{1}{4}$ of 1%, or $\frac{1}{2}$ of 1%, cuts into the return, but this is not as significant as whether you can get the property leased. On the other hand, the general availability of credit determines whether interim financing is available. In mid-1962, the availability of mortgage money had resulted in some postponement, but he was not able to be explicit. In his view, housing was more likely to be adversely affected by a change in credit conditions than industrial construction, since there is more of a margin in the latter. In industrial construction, the important thing is to find good clients. If the client is good, then if the mortgage rate is $6\frac{1}{2}\%$ or $7\frac{1}{4}\%$ the rental can be adjusted. If you have a weak client, you always have trouble. If a bank is not available for the interim financing, the money can be found at higher rates from a finance company. In his view, industrial construction is affected by tight credit because the companies for whom they are building properties do not want to go ahead. Their clients have to put in equipment, working capital, etc. Under tight credit conditions they sometimes cannot get their banks to go ahead. He was not able to cite specific examples but this view was based on his experience in the field.

The Treasurer and Comptroller of a manufacturing company began by saying: "I can't seem to recall it. We have had quite a lot of trouble re-locating personnel." He was apparently shuffling through his papers as he spoke, however, and added: "Here it is, in a pile of papers." During the course of an extended telephone conversation, he discussed at some length the portfolio management practices of the company. They have \$13-\$14 million in short-term investments. At times they have held securities of up to 5 years maturity, but last year all their funds were invested in swap deposits. They found they could get a higher return on swaps than on treasury bills. The Treasurer went on to say: "We might have done as well in commercial paper but we were not willing to take it." At one time they held provincial issues but found that they were more volatile than Canada's and it was sometimes very hard to get their principal back in periods of fluctuating rates. He added: "Losses show up like a sore thumb." His experience suggested that when money got tight, it became quite noticeable in the collection of

accounts. He felt that during such periods there was a tendency for the small businessmen to lean on the large fellows. They noticed that the situation was particularly bad when the banks eliminated overdrafts. They have a subsidiary, but they have not increased their advances to them in periods of credit tightness. Their subsidiary has a line of credit with a bank. He pointed out that it might seem strange that a company with surplus funds should have its subsidiary borrow from the bank but he explained that any other course might get complicated. The cost and availability of credit has had no effects on their plans to acquire plant and equipment. Since they have not been short of cash, there has been no effect there or on inventories.

Some of the firms which failed to reply were not able to give any information on their reasons, since the executive queried could not remember having seen the questionnaire.

The owner of a small contracting firm, in response to a telephone query, said that he didn't recall seeing the questionnaire. He went on to describe the company which had assets of around \$200,000. Their purchase of equipment had not been affected by credit conditions. "Interest rates don't bother us. Another $\frac{1}{2}\%$ or 1% does not influence us at all." On their equipment they are permitted 30% on the declining balance and can get half back in two years. They only buy equipment when they see enough work. The life of the equipment is around 10,000 hours; it can then be rebuilt at 30% of original cost and is good for another 10,000 hours. He had investigated the possibility of using a finance company to finance his equipment and found they were prepared to lend him \$250,000 but found that they wanted too high a rate. Their bank looked after them during the last period of tight money. He pointed out that at the moment (spring 1963) they had a project ready to go. "It is a \$2 million apartment building, and if a Life company does not come through with the finance for it, we will not proceed and the company will not get the sub-contract."

The President of a firm manufacturing sports clothing responded to a telephone inquiry in the following terms: "It could have gone to the book-keeper and not come forward to the President." He added: "We have never had any problems with the bank, although we rely on them quite a bit." They make very little capital expenditure and their inventories are not influenced by bank credit.

The office manager of a small firm manufacturing Christmas decorations said: "I don't recall seeing it. Sometimes they are thrown out. I don't always get the mail." This firm does not make any capital expenditure and rents its space. They

hire around thirty employees during the season from August to November, when they are in production. They do not hold inventories of raw materials, but buy as needed. They produce the product and sell it as quickly as possible. They rely on internally generated funds and bank borrowing. If they have a good season this will carry them for a couple of years. They have never had any difficulty borrowing at the bank.

The President of a radio station, in response to an inquiry about their questionnaire, said: "So much stuff goes over my desk in a day that I don't remember all of it." The company is owned in the United States and borrows nothing in Canada. They pay cash for everything, and, with the exception of cars, do not lease anything. They think it is more profitable to own their own things and only lease their cars for service reasons.

The owner of a lady's dress shop said she might have received the questionnaire but if so she did not have it around any more. She was not interested in the survey and was too busy to answer questions. She uses bank credit occasionally but has never found it unavailable when she wanted it.

In a few isolated cases, an explicit decision was taken not to answer the questionnaire.

An executive of a company which was wholly owned by a British corporation said that it was not their policy to make available numbers of the kind we sought.

The Treasurer of a firm of building contractors said that the questionnaire was received and put before the executive committee to decide if an answer should be sent. The decision was taken not to respond. This company has been reluctant to give out information. They were formerly a Canadian company but in the mid-'fifties had the choice of remaining a Canadian private company or becoming a wholly owned subsidiary of an American corporation. They decided to go in "with the New York crowd" and have since been in a position to bid on very large jobs. In the early days of the amalgamation, the parent guaranteed their bank loan, but in recent years this has not been necessary. They have never relied on any outside source of finance other than the bank. They have no funded debt and have never dealt with finance companies, equipment suppliers, etc. The Treasurer could not recall any case in which changes in credit conditions had in whole or in part influenced their decision or led them to postpone or abandon the purchase of any equipment. They own a substantial amount of equipment which they purchase as required for jobs, attempting as far as possible to purchase general purpose equipment which can be used on other jobs. It might have been the case

that the company failed to bid on some job because of an unwillingness to purchase the equipment, but no such incident had ever come to the attention of the Treasurer. In 1962 they were heavily committed in one of the metropolitan areas and in the North. They have never encountered any difficulty from the bank. Their line of credit has been arranged for twelve-month periods and has been ample. When they have funds on hand they hold Treasury Bills or bank deposit receipts. The company only holds heavy inventories of parts and supplies if they are operating in the bush and would lose equipment time if there were failures. Their decisions on holding inventories are unaffected by changes in credit conditions. Since they deal with large customers such as governments or big companies, their problems in the area of trade credit do not turn on failures to pay but rather on the practice of the "hold-back." Owners hold back 15% of the value of the job until completion so that suppliers and others will be sure of getting paid by the contractor. This practice means that contractors have to have extra finance to take care of their current expenses.

The Executive Vice-President of a firm in the mining industry controlled from the United States, said: "We do not like to file questionnaires unless it is mandatory or unless we feel it will help the general picture." They have done no outside financing for fifteen years. Their accounts receivable have not been affected, except in a minor way. Most of their sales are to large industrial firms on annual contracts.

Conclusion

In the course of this concluding investigation, we contacted over one hundred firms and were able to get some information from 100 of them. It was evident that a significant number of executives failed to respond to the survey because their companies had not been affected in any significant way by changes in credit conditions and they therefore felt that they had nothing to contribute. At the same time, there were a few firms which had gone out of business, and this

might have been related to changes in credit conditions. In one of the cases cited in the body of the chapter, it was suggested that credit conditions had played some part in the bankruptcy which occurred. Of the firms from which we were able to obtain information, we would judge that if these companies had responded to the mail survey and had been subsequently interviewed, three of the firms would have been classified as ones which had curtailed capital expenditure in 1959-60. This 3% response rate can be compared with the 3% rate found for all firms with assets under \$5 million and 2.3% for firms with assets between \$5 and \$90 million. For 1956-57 we found three firms which would probably have been classified as verified responders, and for 1962 three, of which one was doubtful. Since one of these firms was affected in two periods, we would estimate that out of this group of 100 firms not completing a questionnaire, 7 or 8 companies would probably have been classified as verified responders in one or more periods, a somewhat higher percentage than the 5.2% we found for the firms which replied to the mail survey.

It is difficult to judge whether this difference is a significant one, arising as it does from a somewhat greater responsiveness in 1956-57 and based as it is on arbitrary judgements which often had to be made on the basis of a brief telephone conversation. We were impressed with the essential similarity in the degree of responsiveness of firms which did not reply, as compared with firms which did supply completed questionnaires. Given the very close relationship of the verified responses for 1958-60 for the two groups of firms, we would conclude that a higher response rate to the mail survey and a correspondingly larger interview programme for responding firms would probably not have led to results which differed in any significant way from our existing results.

CORPORATIONS AND THE FOREIGN EXCHANGE MARKET

The Survey was primarily concerned with the direct effects of monetary and debt policies on corporations. It was clearly also a matter of considerable interest to know the extent and timing of the response of corporations to changes in exchange rate policy. This involved not only a knowledge of the way in which corporations carried out their foreign exchange transactions, but also called for a quantitative analysis of the way in which corporate output was affected by changes in the exchange rate. We experimented with some questions on the latter issue and obtained some useful results. It became clear, however, that the analysis of these effects would call for a full-scale inquiry in depth. In view of the heavy demands we were already making upon corporations and the difficulty of mounting another major survey while the success of the existing survey was still in doubt, we did not press ahead on this front. While our own inquiries did not go very far, we have some confidence that a major investigation using the techniques of economic arithmetic and econometrics in combination with the survey method would yield interesting results. This is a fruitful area for future research.

While our investigation of the effects of exchange rate policy was a limited one, we did include the following question in the form sent to corporations:

"The Commission is interested in obtaining information on the decisions made by participants in the foreign exchange market. Please describe briefly the practices you follow as a buyer or seller of foreign currencies."

The useable answers to this question fell into three broad classes, and the distribution as between two size classes is shown in Table XI-1.

We shall first describe and illustrate the replies to this question obtained in the mail survey and then discuss some of the information obtained in the interviews.

The Mail Survey

While we discussed foreign exchange practices with corporate executives during follow-up interviews, we did not select firms for interviews in terms of their response to this question. Most of the examples drawn from the mail survey are thus derived from uninterpreted data and should be treated with some reservation.

TABLE XI-1
Foreign Exchange Practices
Percentage Distribution of Replies

Assets of Firm	Always use the spot market	Occasional or Frequent Forward Transactions	Always use the Forward Market	Total
Under \$10 million.....	76%	6%	18%	100%
\$10 million and over	51%	10%	39%	100%

(a) Firms with under \$10 million in assets

In general, there is a noticeable difference in the behaviour of small and large firms in the foreign exchange market. Many small firms have no dealings in the market at all and either failed to answer the question or indicated that they had nothing to report. As indicated in Table X-1, a high proportion of small firms deal in the spot market only. The following examples are typical.

A food manufacturer with assets of around \$1.5 million reported: "Purchase foreign currencies through Bank to cover requirements on a day-to-day basis."

A manufacturing company with assets of just under \$2 million reported: "Our Company purchases \$400-\$500,000 foreign currency per year. We purchase currency when we make payment to our supplier, which is 30 days after receipt of invoice."

A furniture manufacturer with assets of just under \$1 million answered as follows: "We buy approximately \$100,000 in U.S. funds each year in order to pay for invoices from U.S. suppliers of lumber, veneer, hardware and tools. The procedure is simply to buy currency at the Royal Bank of Canada in at current rate as required."

A hardware manufacturer with assets of just over \$3 million reported: "We buy foreign exchange, largely N.Y. funds, to the extent of over \$1,000,000 per year, as required to settle our accounts. We do not deal in futures."

A metal manufacturing company with assets of just under \$400,000 reported: "We do not hedge, buy or sell futures. We buy foreign funds only when the foreign account becomes due."

A small paper company with assets of under \$250,000 answered as follows: "We have very little dealings on the Foreign Exchange Market. When importing raw materials we just buy American dollars or English pounds, as the case may be, at the time the amount is due."

An equipment manufacturer with assets of just over \$300,000 reported: "We purchase foreign exchange only to pay for materials and equipment bought outside of Canada. The amounts are small and we purchase the exchange at the time the payments are due."

Other firms could be classified almost as clearly as dealers in the forward market. In some cases, the practice of dealing in futures was altered with the adoption of a fixed rate for the Canadian dollar.

"...as to the Foreign Exchange, I would report that our dealings have been largely confined to the purchase of futures to cover proposed foreign purchases, largely U.S.A. We have been told by two separate chartered banks that "speculation is frowned upon by the bank"."

"Our sales proceeds in U.S. dollars and British pounds are normally sold ahead through commercial banks. The forward selling period is normally 60 to 120 days."

"Buy sterling futures to cover raw material purchases."

"Buy New York futures to cover raw material and machinery purchases."

"We buy regularly from the United Kingdom and pay in Sterling. We usually contract with our bank for Sterling futures, equal in amount to about one month's purchases. We try to maintain our position in Sterling futures at a reasonably uniform level by contracting for new futures as we reduce our old futures at the time of remitting."

"We have, over the years, made fairly substantial purchases of sterling up to a maximum of about \$150,000 in 1956-57. When there was a floating rate for the Canadian dollar it was our practice to make forward contracts, but since the establishment of a fixed rate, we have not done so, and we now (October 1962) have a liability of \$130,000 payable in Sterling over a period of 18 months which is not covered."

Those firms which deal exclusively in the spot market or do not adapt their forward purchases or sales to their future receipt or obligations, may unwittingly be "speculating", in the sense that they are taking uncovered positions in foreign exchange. If sales are being made considerably ahead of payments and the payment is to be made in a foreign currency, then a company can only protect itself against a possible change in the exchange rate by a forward sale of the foreign currency. If the company follows a rigid rule of dealing exclusively in the spot market, then during the period between sale and payment it has placed itself in the position of speculating on the future of the exchange rate. Similarly, a company which does not adapt its dealings in the forward market to changing amounts of sale or changing terms of payment will be placing itself in a speculative position. Such firms are not usually called "speculators" — this term being reserved for

those who explicitly take a view of likely changes in markets and adapt their behaviour in the light of this view.

Many firms indicated that on occasion they altered their behaviour in the foreign exchange market from time to time, and some of them made it clear that this was done in the light of their view of market prospects.

A wood manufacturing company with assets of around \$2.5 million answered as follows: "We have on occasion sold U.S. receivables ahead for periods ranging from three to seven months; however, our regular practice is to sell foreign exchange on the market on day of receipt."

A small manufacturing company with assets of around \$250,000 reported: "Commitments mostly U.S. dollars. From time to time we have purchased futures to cover future commitments,"

A drug company with assets of under \$500,000 answered in the following terms: "Buy through banks as needed. Only rarely purchase in anticipation of requirements."

A men's clothing manufacturer with assets of just under \$1 million reported: "Buy sterling as required to meet cloth invoices. Only twice have we bought futures in last 10-year period."

A manufacturing company with just under \$300,000 in assets reported: "Will buy futures to cover expected imports if situation seems advantageous."

A textile company with assets of just over \$3 million answered as follows: "We sell foreign exchange for smaller amounts, say up to \$10,000, on a current basis, unless amounts are larger when we may sell forward. We buy foreign exchange to pay for raw materials and new machinery, etc, on future contracts, depending on our judgement of the foreign exchange market at the time."

An importing company with assets just under \$5 million described their foreign practices in the following terms: "Foreign currency, mainly Deutsche marks, is purchased when required and when rate of exchange appears favourable. Fluctuations of the latter are closely observed and favourable rates influence the amount of purchase. Forward purchases are made occasionally."

Some small firms were more precise in dating the periods in which they altered their behaviour and in describing their reasons for doing so.

A firm manufacturing and wholesaling wood products, with assets of \$1.5 million, answered in

the following terms: "Since 1957 we bought futures repeatedly, as we wanted to be protected against devaluation of Canadian dollars towards our obligation pertinent to imports from the U.S.A. We convert U.S.A. dollars for our Exports to the U.S.A. currently into Canadian dollars."

A construction company with assets of just under \$2 million reported: "We purchased and held U.S. funds only once (December 1960) when we suspected a drop in the Canadian dollar value — because we had surplus cash available to do so. Normally we purchase U.S. funds to pay our current accounts when due, paying the going rate of the day".

A retailer with assets of just under \$300,000 answered as follows: "The company is a buyer of foreign currencies. Last year (1961) we decided to buy futures... We discontinued this practice when the government came out this June with the austerity program and the Canadian dollar remained firm."

A manufacturing company with assets of just over \$5 million answered the question as follows: "Foreign currencies, chiefly U.S. dollars, are purchased at regular monthly intervals to pay liabilities to that country as they fall due. Only once has the company bought its requirements ahead of the date required: this was in June, 1962, when our needs for the next six months (of approximately \$1,000,000) were purchased in advance, due to the potential hazard of a further devaluation of the Canadian dollar."

An importing company with assets of just under \$500,000 answered as follows: "Up until 1962 foreign exchange purchased as required for immediate disbursement at current rate. In 1962 futures were purchased."

(b) Firms with assets over \$10 million

While the proportion of larger firms dealing exclusively on the spot market is lower than in the case of smaller firms, over half of the replies which could be classified fell into this group. The following examples are typical.

"Foreign exchange sold on day received to the Bank offering the best rate on a competitive basis." (A mining firm; asset size \$15-\$20 million)

"Seller only — our practice is to sell foreign currencies at rate prevailing on date received." (A newsprint firm; asset size \$10-\$15 million)

"Foreign exchange is purchased 'spot' on the local market as required for operations." (A food manufacturing firm; asset size \$15-\$20 million)

"All exchange transactions have been on a spot basis." (A drug company; asset size \$10-\$15 million)

"As a buyer only for normal operations and capital expenditures. Do not deal in futures." (A manufacturing company; asset size \$10-\$15 million)

"This company regularly purchases U.S. dollars to pay its inter-company account owed to its U.S. parent. The transactions are consummated at market rates when the company has generated sufficient funds to make payment. There is no attempt to deal in futures, or hedges, or speculate in any manner." (A metal manufacturing company; asset size \$40-\$50 million)

Some larger firms deal exclusively in the forward market. The following examples are typical.

"Forward sales of U.S. funds against forecasted sales." (A pulp and paper company; asset size \$25-\$30 million)

"Most of our foreign sales are in terms of U.S. or £. It is our practice to hedge these transactions through the use of foreign exchange futures through the medium of our various Canadian banks." (A grain company; asset size \$25-\$30 million)

As exporters of Canadian grain, we are sellers of foreign currency. As grain sales are consummated, we sell foreign exchange futures to cover the conversion to dollars Canadian at the time of payment." (A grain company; asset size \$35-\$50 million)

"We cover all purchases and sales in foreign currencies with 'futures' in the currency involved. We have dealt in futures in U.S. dollars, French francs, German Deutsche marks and Danish kroner." (A machinery firm; asset size \$15-\$20 million)

"Generally, practice has been to obtain coverage against fluctuations on specific sales contracts where a rate of exchange had to be used in calculating price to customer." (A manufacturing company; asset size \$35-\$40 million)

Some of the larger firms usually deal in the spot market but on occasion buy futures.

"Buy and sell on current market. Occasionally buy or sell futures if decision to buy or sell has been based on current rate of exchange. Longest period for either would be 90 days." (A primary processing firm; asset size \$25-\$30 million)

"We are a seller of foreign exchange since a substantial part of our company's output is exported

outside Canada. While at times we have hedged by selling futures at the time of invoicing and liquidation on collection, currently we are selling foreign exchange on date of receipt." (A logging and lumber firm; asset size \$20-\$25 million)

"Normally purchases of foreign currency are made through the bank as and when required to pay trade payables. Occasionally purchases of futures are made in order to protect our position where foreign currency is involved." (A manufacturing company; asset size \$20-\$25 million)

"Our only foreign exchange transactions have been simply for the purpose of paying foreign suppliers principally U.S. and some British. We have occasionally bought futures but usually we have purchased foreign exchange as needed. Our exchange requirements for this purpose generally run between \$800,000 and \$1,000,000 per month." (A manufacturing company; asset size \$10-\$15 million)

Some firms typically operate in the spot market but switch to the forward market when unusually large amounts are involved.

"Usually purchase foreign currencies as required. For large capital items we purchase forward contracts. Usually we deposit U.S. funds received into U.S. bank account. Other foreign currencies are sold through Canadian banks." (A textile company; asset size \$40-\$50 million)

"We buy or sell foreign exchange as needed or accumulated. At present we have an unusually large amount of business which will be paid for in U.S. funds, and we have protected ourselves by selling futures." (A machinery company — asset size \$20-\$25 million)

"We regularly sell approximately \$400,000 per month of U.S. funds through the Bank. On rare occasions during the past ten years, we have sold forward for periods up to six months. On one occasion, we purchased forward for payments schedules on major capital equipment projects." (A pulp and paper company — asset size \$40-\$50 million)

"As a buyer: We operate a U.S. fund bank account and usually purchase enough once each month to satisfy our requirements. We occasionally defer purchase for a few days (never more than a week) waiting for a favourable rate. Other foreign exchange, mainly sterling, is purchased on the day we have to make payment.

As a seller: U.S. funds received are deposited in our U.S. fund bank account. They are usually less than our requirements of U.S. funds.

Other foreign currencies are converted to Canadian dollars as received.

Occasionally (about once in a year or two) if we have a large amount of foreign funds which we expect to receive, we will sell futures to protect ourselves from a change in the rate." (A textile firm — asset size \$30-\$40 million)

Some firms adapt their behaviour on the spot market in the light of their expectation of foreign exchange movements.

"Most of production is sold by associated company as agent. Normally it converts funds as received, but occasionally defers exchange if the Canadian dollar appears weak." (A mining company — asset size \$20-\$25 million)

"Normally sell foreign currencies as received. However if Canadian dollar appears weak can occasionally delay conversion." (A refining company — asset size \$15-\$20 million)

Other firms adapt their behaviour on the forward market in the light of expected movements in rates.

"Usually sell forward exchange but this depends on cost of discounting. If foreign funds seem likely to improve may delay hedging for a short time." (A primary processing firm — asset size \$40-\$50 million)

The Interview Evidence

The interviews provided an opportunity to go into the answers to the question on foreign exchange in greater depth. It is still the case, however, that the answers are very broad and general. In cases where corporations operating under the flexible exchange rate system had a rigid policy of dealing exclusively in the spot market, or had a fixed set of rules for operating in the forward market and did not vary their behaviour in either market in the light of expected exchange rate movements, little would have been gained by further investigation. In other cases, under the flexible rate system firms took a view of likely developments in the exchange market and adapted their behaviour in the light of the view. Only an extensive inquiry making use of detailed records of the company's foreign exchange transactions and drawing on the detailed experience of the relevant executives could have provided a reasonably complete understanding of the practices followed. The following examples should be read with this reservation in mind.

The executives of some firms indicated that they dealt exclusively in the spot market and made no attempt to take a view of likely developments in the market.

The Vice President-Treasurer of a utility pointed out that his company had no earnings in foreign currencies but had an annual requirement of \$3½ million U.S. to cover interest, dividends and sinking fund payments. The U.S. funds necessary to cover these payments are purchased on a spot basis, as the Treasurer considers such a policy to be easier to defend in front of the Board of Directors. He pointed out that he was not anxious to put himself in the position of having to explain to the Board of Directors why, for example, he had purchased \$2 million U.S. six months in advance of requirements during a period when the Canadian dollar continued to strengthen.

The Comptroller and Assistant Treasurer of a firm with subsidiaries in the United States pointed out that the company required a certain amount of foreign exchange for the purchase of equipment in the United States. The company often has its U.S. subsidiaries buy the equipment, subtracting the amount paid from the balance owed by the subsidiary to the parent on the inter-company account. Any transactions they cannot offset are made on a spot basis. As the Assistant Treasurer put it, "We don't speculate — nor do we attempt to prevent speculation by hedging." The company will occasionally attempt to speculate on future price movements of commodities and recently bought a two years supply of one of their raw materials in advance of a price change.

A large complex firm with a net inflow of \$60 million U.S. per year has a policy of not dealing in the forward market. The company receives payments for its sales between the 15th and 30th of every month, and it makes regular daily transfers from U.S. to Canadian dollars in the latter half of every month. Some of the affiliated companies did occasionally use futures prior to their association with this firm, but the policy of uniform spot purchases was adopted when they became affiliates.

The Vice President Finance of a large manufacturing company pointed out that the company requires \$70-\$80 million a year in U.S. currency. The monthly requirements for U.S. funds are estimated and purchases are staggered fairly evenly throughout the month. The company does vary its purchases from day to day in accordance with their view of future shifts in rates.

The executives of some large firms who did not attempt to take a view of the market in the

days of the flexible exchange rate indicated that they had made a deliberate choice to operate in this way after a careful analysis of the alternatives.

The Treasurer of a primary producing firm with large earnings in U.S. dollars said that it was a matter of company policy under normal conditions to convert U.S. dollars at the time of receipt. When it was suggested that an alternative policy might be more profitable, they asked their bank to fly in its foreign exchange specialist from Head Office, and the executives of the company questioned him closely. The executives were not convinced that anything significant could be gained by altering their policy and continued to dispose of foreign exchange at the time of receipt.

In one important case, operations in the spot market were usually carried out in a fairly regular way and a special effort was made during the crisis period of 1962 to follow a policy which the company felt would meet with the approval of the authorities.

A large primary producing company with very heavy earnings of U.S. dollars makes a practice of selling spot in daily amounts of equal size. The company sometimes sells U.S. dollars a few days ahead when there is a rate advantage in doing so. During the period of the exchange crisis a record was kept of the foreign exchange transactions of the company and a copy sent to the authorities to make clear the fact that the company had not been taking a position in U.S. dollars during the period.

Some firms made a usual practice of disposing of foreign exchange in the spot market at the time of receipt, but altered this practice in 1962.

In an interview with the President and Treasurer of a large primary producing company, they pointed out that the firm had substantial earnings in U.S. funds, almost \$50 million per year, of which about \$15 million was required for debt service and other payments in the United States. The balance, \$35 million, is transferred into Canadian funds as soon as the foreign currency is received, and is not sold forward. The only time the company took a view on foreign exchange was in 1962 when funds generated from an issue in the United States were kept in U.S. dollars until they were needed for expenditures in Canada.

Some large firms had a regular pattern of operating in the forward market and did not attempt to forecast exchange rate movements.

A large company with an American parent reported that they always held two months cover on requirements of U.S. dollars and sterling. They formerly held three months cover, but decided three years ago that two months cover was cheaper and provided a long enough time to change prices to pass on the changed cost of imports.

The Vice President Finance of a large manufacturing company indicated that they followed the general policy of covering their foreign commitments. There have, however, been intervals when the company has taken up positions in the exchange market indicating that it thought the existing rate either unnaturally high or unnaturally low. The usual company procedure between 1953 and 1959 was to speculate against the Canadian dollar whenever it was at a substantial premium but not to speculate in its favour when it got close to par.

The Treasurer of a large retailing firm pointed out that the company always hedges to some extent its purchases of goods from foreign countries. They normally have forward cover for approximately three months' purchases, although at times this cover is allowed to drop as low as two months' purchases and has been as high as six months' purchases. Throughout the nineteen-fifties the size of the company's forward cover was allowed to vary constantly in response to changes in the company's expectations of future movements in the exchange rate. During most of 1962 the company maintained about three months' forward cover, which was augmented in May by the purchase of \$2 million U.S. These funds were still being employed in the short term money market in New York in October when this interview was carried out. This purchase of spot U.S. dollars was made at a time when the company felt the need to cover requirements for U.S. funds while at the same time considering that the cost of forwards was excessive.

When operating under the flexible exchange rate system, the executives of many large firms altered their purchases or sales of either spot or forward exchange in the light of their views of expected exchange rate changes. This behaviour took a variety of forms.

Some firms ordinarily bought in the spot market as required, but on occasion covered their requirements if they anticipated a movement in the rate.

A large retailing company in general fills its requirements for U.S. dollars by buying spot, although occasionally they may cover as much as two months purchases when they feel a shift in the value of the Canadian dollar is inevitable.

Other firms ordinarily covered their requirements for foreign exchange but altered the extent of this cover when they anticipated shifts in the rate.

A company with no purchases or sales in foreign markets reported that it only required foreign exchange for the payment of dividends amounting each year to \$1.2 million. They follow the practice of buying the U.S. funds necessary for dividends up to six months ahead of the dividend date and invest the cash in the U.S. money market. The company's practice is to buy the funds required in fairly regular amounts during this six-month period. The extent to which they buy ahead depends on their view of likely movements in the exchange rate and in general they follow their bank's advice in these matters.

The behaviour of a significant proportion of large firms cannot be classified simply. During the flexible exchange rate period they attempted to take a view of future exchange rate movements and operated in both the spot and forward markets in the light of this view. In most cases the executives concerned were interviewed shortly after the establishment of the fixed rate and had not settled on a new course of action.

The Vice President of a large manufacturing firm pointed out that the company had significant sales in the United States but that these sales are not large enough to provide an offset for the company's purchase requirements of U.S. funds. Annual purchases in the United States amount to U.S. \$30-35 million, while sales to that country are approximately one-third of this amount. The company thus has an annual net requirement of about U.S. \$22 million. They keep a U.S. dollar balance in a New York bank the size of which varies with the company's expectations about future movements in the exchange rate, but which is intended in general to be large enough to cover one month's payment requirements in U.S. funds. In early 1960, shortly after a large bond issue had been floated, the company put some of its excess funds to work in New York in order to take advantage of the higher interest rates and capital gains available there. This large transfer of funds to New York amounted to a forward purchase of funds for a company with net annual requirements for U.S. currency. Inflated holdings of U.S. funds in 1960 allowed the company to have a reduced cost of U.S. funds for that year. Likewise, in early June 1961 the company increased its New York balance to \$12 million, four times its usual size, in anticipation of future declines in the value of the Canadian dollar.

Such declines did in fact take place and the company was once again able to obtain its U.S. funds at a lower cost.

The Treasurer of a large company pointed out that they required about \$4 million per month of U.S. funds in order to meet their requirements. In June, 1962 their forward position was about \$10 million and this position in the past had been as high as \$60-70 million. Throughout the period from the end of 1960 the company had consistently maintained a forward position, in the expectation that the Canadian dollar would not go any higher. This reasoning was also behind the company's decision to redeem notes payable in U.S. dollars a year in advance of maturity. In doing so, they made substantial savings on their purchases of U.S. funds. The purchase of forward exchange was described as a relatively new practice for the company, most exchange purchases being made on a spot basis prior to 1960.

The Vice President of a large company reported that they buy approximately \$50 million U.S. per year. The firm takes an active position in the exchange market and buys up to six months supply of futures whenever their expectations are that the Canadian dollar will weaken within the next half year. During the period when the exchange rate was floating, the Vice President would buy futures in quantity whenever the Canadian dollar went as high as \$1.04 U.S. and would buy spot whenever the rate came close to par. In the past year and a half, the company has been quite heavily hedged. It was estimated that the firm made nearly \$500,000 in 1961 buying U.S. dollar futures. In 1960 the profits made on \$10 million in futures bought early in the year was balanced by the loss on \$8 million in futures bought in June at a rate of \$1.09½ Canadian per U.S. dollar.

The Vice President and Treasurer of a large manufacturing company indicated that the company had an annual requirement of around \$4 million U.S. per year. Throughout the nineteen-fifties the company followed a policy of hedging whenever they thought the Canadian dollar was more likely to move down than up, and not covering their requirements for foreign currency when the Canadian dollar looked as though it would strengthen. These procedures were followed even though in the Treasurer's opinion it was not part of his function to make money on the foreign exchange market. The company covered extensively in the early months of 1962 but have ceased to do so since the fixed exchange rate was established.

The Vice President and Treasurer of a large manufacturing company indicated that with imports of around \$75 million as compared with exports of about one-fifth of this amount, they had large

U.S. dollar requirements. They hedged these net U.S. dollar requirements intermittently in the period 1953-57, depending upon their view of rate movements. Towards the end of 1957, when they were hedging regularly, they found that the hedging was more expensive than dealing on the spot market, and they switched to spot purchases until hints of devaluation in November 1960. A three to six months hedge was maintained from then until June 1962. Since then, all purchases have been spot.

Following an interview in which the question on foreign exchange practices was discussed, the Vice President Finance of a large primary producing company submitted the following information on their policy. "Since more than half of our sales are to U.S. customers in U.S. dollars and most of our expenditures are in Canadian funds, we are a heavy seller of U.S. dollars. We are also a seller of Sterling received in the United Kingdom market. Our policy is a flexible one in that we sell U.S. dollars on a spot basis from day to day or on a future basis in anticipation of receipts, or a combination of both, depending upon the best judgement of management of the future trend of the exchange rate. In order to obtain what is considered to be the most favourable rate, we rely upon day to day advice and forecasts from banks and financial advisers and upon published information from the Government and other sources. Until recently we sold Sterling for Canadian

dollars on a spot basis as received. We now (August, 1962) sell Sterling on a future basis for delivery when Sterling is expected to be collected.

Conclusion

The evidence summarized in this chapter was a by-product of the Survey. If we had carried out a full-scale inquiry on the foreign exchange market behaviour of corporations, we would have placed much more stress on quantitative results and would have probed much more deeply into the practices of individual firms. As in the case of the analysis of the effects of monetary policy, we would have taken advantage of the fact that a limited number of very large firms are of critical importance in the market and that an understanding of behaviour of these companies would carry one a good deal of the way to an understanding of the foreign exchange market.

The broadly indicative evidence we did gather is of some interest as an illustration of the way in which firms conducted their foreign exchange transactions under a relatively settled flexible exchange rate system, and how their behaviour was affected by the events of 1960-1962.

CONCLUSION

No attempt will be made here to summarize the evidence marshalled in the previous chapters. Where possible we have attempted to draw conclusions as we went along, and these conclusions are best left close to the evidence on which they are based. This may be, however an appropriate place to offer some concluding observations.

Perhaps the first point to be made is that it is important to recognize that the question of the effectiveness of monetary and debt policies is a quantitative question. Much of the apparent disagreement on the effectiveness of these policies may not be a disagreement at all. It may be that those who hold, as did the Commission on Money and Credit in the United States, that monetary policy is a "valuable and effective instrument of stabilization policy" are in fact content with very limited effects. Alternatively, some of those who dismiss monetary and debt policies as being of limited importance may anticipate effects which others would regard as of considerable significance. Unless those who put forward views on this subject give some clear indication of the size and timing of the effects they have in mind, it is difficult to know what is being said.

The second point worth emphasis is that the effectiveness of monetary and debt policies raises a quantitative question which does not lend itself to an answer which applies at all times and in all places. It is a matter of considerable interest to know how the Swedish economy reacted to a particular set of measures in a particular year or how parts of the British and American economies responded to changes in credit

conditions at various times. From the point of view of a Canadian policy maker, it is even more interesting to know how the Canadian economy responded to changes in credit conditions in various years in the past. But this is not enough. An economy can easily alter through time in a way which affects the extent and timing of the response to monetary and debt policies. Attention was drawn in the Commission's Report to the effects which flowed from the existence of a flexible exchange rate in Canada, and it is evident that the exchange rate system in force is of considerable significance. Other characteristics of the economy can also play a part. If, for example, the structure of the financial system is altered to allow freer rein to the play of interest rates and increased competition among lenders, changes in credit conditions will tend to be reflected to a greater extent in changes in borrowing and lending rates and to a lesser extent through changes in the availability of credit. This could be expected to influence both the magnitude and distribution of the effects of monetary and debt policies.

This suggests the need for continuing research if the authorities are to keep themselves informed on the effects which can be anticipated from particular changes in monetary and debt policies. This is, of course, not the only area in which continuing research of this kind is required. It would clearly be a misallocation of research resources if great efforts were made to refine estimates of the likely effects of limited variations in credit conditions while no attempt was being made to develop quantitative measures of the effects likely to

follow from changes in taxes and government expenditures. Fiscal policy is potentially a more powerful instrument than monetary and debt policies, and the analysis of the effects likely to follow from fiscal changes might well be regarded as enjoying a certain priority over analysis of the consequences of changes in credit conditions.

As pointed out in the Commission's Report, the techniques for carrying out research on the effects of economic policies on the economy can be classified in three categories: economic arithmetic -- the compilation of statistical information and its analysis by graphical and other elementary techniques: econometrics -- the quantitative analysis of statistical information on the economy; and surveys -- the direct questioning of decision-makers on the way in which they have responded to changes in economic policy. There are enthusiastic adherents of each of these methods who feel that the attack should be concentrated in their sector. In our view, the wiser course is to press ahead on all fronts, recognizing that in effect these three methods are all variants of a single method.

There is a crying need for better basic statistical data and the success of any empirical work depends in large measure on the availability of improved data. At the same time, as the various comments by corporate officials in this study indicate, there are limits to the amount of information which governments can expect to collect from corporations and others, and it is therefore vital that those collecting statistical data concentrate their efforts on obtaining the kind of information which is most useful. The more applied work which is being done with the existing data, and the more clearly those engaged in applied work can point to the need for particular kinds of data, the more likely is it that those engaged in assembling quantitative information will succeed in improving the statistical base.

There is no need to stress the importance of continued efforts to carry forward econometric research. Given the best available statistical information, it is clearly desirable to apply the best available quantitative methods to the analysis of these data. It should come as no

surprise that the task of establishing the nature and magnitude of the inter-relations among various economic variables is a very difficult one. It is not to be expected that issues which have remained unsettled in economics for many decades will yield very quickly, even to improved methods of analysis. Those providing support for econometric research should regard this as a long-term investment project and not expect the returns to be very high in the early years.

The survey method is not an alternative to the further improvement of statistical information and the analysis of these data by econometric techniques. It is rather a complementary means of achieving the same end. This is evident if one remembers that much of the basic data which is made available for statistical analysis by either elementary or advanced techniques is obtained by regular responses from corporations and others to questions asked by the Dominion Bureau of Statistics and other government and private agencies. There is, of course, a difference between a response which is confined to statistical information and a response which goes one step further to an analysis of some of the decisions which lie behind the data. This difference can be a marked one if the statistical survey is part of a regular pattern of reporting with relatively high standards of accuracy while the survey of decision-making does little more than assemble rather casually expressed views on the forces which influence behaviour. On the other hand, if the standards of accuracy of the statistical survey are not high, and considerable care is taken with the survey of decision-making, it may be hard to judge which is the more accurate. Those engaged in the collection of basic statistical data are often shocked to find the bold use made of quantitative information which is of questionable accuracy. There is some advantage, therefore, in subjecting statistical data to detailed analysis at the level of the individual unit. Where the number of decision-makers is very large, the records inaccurate or incomplete and the decisions not characterized by order and consistency, the task of analysis at the level of the individual unit is difficult in the extreme. In the case of corporations, however, the economic variables being studied are very significantly affected by the behaviour

of a relatively small number of decision-makers in large companies. The records of most corporations are accurate and usually fairly detailed, and an attempt is ordinarily made to maintain some consistency and order in the decisions being taken. Under these conditions, direct questioning, if carried out with sufficient care, can serve a useful purpose.

The success of work of this kind turns directly upon the willingness and ability of corporate officials to supply reliable information.

Our own experience in the present survey indicates that senior executives are prepared to take a good deal of time and trouble to analyze their decisions if it can be shown that this will contribute to an understanding of the way in which the economy works. It is to be hoped that a critical analysis of the present survey on the part of corporate officials and economists concerned with the impact of public policies on the economy will help to prepare the way for future research on this important subject.

NOTE I

CORPORATE SURVEY QUESTIONNAIRE

Date

Date of financial year-end

Name of Firm:

Address:

.....

Type of Operation:

Number of Employees:

Approx. value of sales for the financial year ending in 1961:

Approx. value of total assets at year-end 1961:

Approx. depreciation expense for financial year ending in 1961:

Approx. capital expenditures for financial year ending in 1961:

Name and position of Company official completing the questionnaire:

.....

The purpose of this questionnaire is to aid the Commission in assessing the role of borrowed funds in financing Canadian industry, and estimating the effects of changes in credit conditions upon the capital expenditures and financing policies of firms of various types and sizes. If any of the following questions do not apply to the operations of your firm, please put N.A. (Not Applicable) in the answer space, explaining if you wish the reason why the question is inappropriate. *The answers given to the questions will be treated as confidential.*

1. In 1956-57, 1959-60, and in mid-1962 funds became less available in Canada and interest rates increased. Were changes in the availability or cost of credit in whole or in part responsible for leading your firm to:

	1956-57		1959-60		1962	
	Yes	No	Yes	No	Yes	No
(a) Change your sources of finance?						
In particular, were you led to:						
(i) Go outside Canada for funds?	—	—	—	—	—	—
(ii) Initiate or increase the use of sale and lease-back financing?	—	—	—	—	—	—
(iii) Decide to issue share capital rather than bonds or other fixed interest obligations?	—	—	—	—	—	—
(iv) Find new lenders (another bank, trust companies, etc.) for financing of a type already employed?	—	—	—	—	—	—
(v) Obtain more trade credit from your suppliers?	—	—	—	—	—	—
(vi) Obtain more or larger advances from customers?	—	—	—	—	—	—
(vii) Make other changes?	—	—	—	—	—	—
(Specify if possible.)						
(b) Increase the internal flow of cash available for expenditures?						
In particular, did you:						
(i) Restrict the granting of trade credit to customers?	—	—	—	—	—	—
(ii) Restrict the payment of dividends?	—	—	—	—	—	—
(c) Extend financial aid to other firms?						
In particular, did you:						
(i) Allow some customers to have more credit than usual?	—	—	—	—	—	—
(ii) Make extra advances to suppliers?	—	—	—	—	—	—
(iii) Increase the size of advances to subsidiary or associated companies?	—	—	—	—	—	—
(d) Deliberately reduce the size of your raw materials, work-in-process, or finished goods inventories?	—	—	—	—	—	—
(e) Postpone any capital expenditures?	—	—	—	—	—	—
If so, please indicate the amounts involved, the nature of the projects, and the number of months of postponement.						
(f) Abandon plans for capital expenditures?	—	—	—	—	—	—
If so, please indicate the amounts involved and the nature of the projects abandoned.						

2. If increases in the cost of external funds or restrictions on their availability have not led you to decrease your planned capital expenditures, is this because: (Please check.)
- (a) Your firm relies only on internal sources of finance or advances from associated companies? ()
- (b) The increases in the cost of funds or restrictions on amounts available were not great enough to affect your planning of capital expenditures? ()
- (c) You were committed to expenditure programmes already under way? ()
- (d) Your firm was not planning or making capital expenditures during the periods of credit restriction? ()
- (e) Of other reasons? (Please specify) ()
3. If past increases in the cost of funds have not been great enough to decrease your planned capital expenditures (answer (b) above), would you indicate below, if possible, how large an increase in the cost of funds would have to occur before the size or timing of your capital expenditures would be affected?
4. In 1961 and early 1962 funds became more available and interest rates decreased in Canada. Were these changes in the availability or cost of credit in whole or in part responsible for leading your firm to:
- (a) Change your sources of external finance? Yes_____ No_____
- If so, please indicate briefly below the nature of whatever changes were made.
- (b) Accelerate your capital expenditure programme? Yes_____ No_____
- If so, please indicate the amounts involved, the nature of the projects, and the number of months the projects were brought forward.
- (c) Implement new plans to purchase capital assets? Yes_____ No_____
- If so, please indicate the size and nature of the new projects.

5. If decreases in the cost of external funds or increases in the amount of funds available have not led you to increase your planned capital expenditures, is this because: (Please check.)

(a) Your firm relies only on internal sources of finance or advances from associated companies? ()

(b) The decreases in the cost of funds, or the increases in the amounts available, were not great enough to affect your planning of capital expenditures? ()

(c) There were no additional capital expenditures available which would promise a satisfactory rate of return, however low the cost of external funds? ()

(d) Of other reasons? (Please specify.) ()

6. (a) How large is your present line of bank credit?

(b) Please indicate the changes in this line of credit since 1954.

7. (a) Combined total of share capital and retained earnings at the end of the financial year 1961:

.....

(b) Total of bonds and debentures outstanding at the end of the financial year 1961:

.....

8. Sources of funds during the period 1955-62.

	Years in which the source was used	Approximate amounts	Effective interest rate
(a) Share capital issued:			N.A.
(b) Bonds or debentures issued:			
(c) Term loans			
(i) From chartered banks			
(ii) From other institutions (Specify)			
(d) Bank loans (non-term)			
(e) Commercial paper			
(f) Other non-bank short-term borrowing			

9. It may be the case that your firm has since 1950 been affected by the cost or availability of credit during some year or years other than those mentioned above, or has been affected during the years mentioned in a way not brought out by the specific questions which have been asked. If so, please indicate the date or dates when your actions or plans were affected, the extent to which your spending or financing plans were altered, and any other relevant details.
10. The Commission is interested in obtaining information on the decisions made by participants in the foreign exchange market. Please describe briefly the practices you follow as a buyer or seller of foreign currencies.

